THE TIMES
Higher Education
SUPPLEMENT

Repeated cuts forecast for SRC budget

by David Dickson,
Science Correspondent

The Science Research Council's budget is likely to be cut repeatedly over the next five years, the council's chairman, Sir Samuel Edwards, said last Wednesday week.

Presenting evidence on behalf of the council to the science sub-committee of the House of Commons Select Committee on Science and Technology, Sir Samuel said that although future distribution of funds between the different research councils had yet to be announced, this seemed a likely outcome.

Up to the present, the council's solution to cuts had been to "strangle" areas of "big science", in particular nuclear physics and astronomy.

"My big worry is that if the financial situation of the country gets worse, then we may have to start strangling some of the less expensive activities financed by the council's science and engineering boards", he said.

Sir Samuel said the dual support system was a major part of the difficulty, particularly as any squeeze in the £100m a year support for research provided through the University Grants Committee would undermine the effectiveness of SRC support for university-based research.

"Part of the problem is that, whereas in the past universities have agreed to take over some of the costs of research projects initially supported by the SRC, today vice-chancellors are saying that they cannot give such a guarantee".

Asked to reply to the criticism that some new universities and polytechnics felt they were under represented on SRC committees, Sir Samuel said that the council was aware of this problem, and had already instituted minimum levels of representation, although it was often difficult to find people with established research reputations in some of the newer institutions.

Oxford Union seeks £750,000

A public appeal will be launched in a few weeks to raise £750,000 for the Oxford Union Society.

The union must become a registered charity to launch the appeal and plans for this are well advanced. A poll of life members last month approved the proposal by 715 votes to 236.

Part of the £750,000 will go to paying off roughly £70,000 worth of debts—£16,000 to the university and about £50,000 to the bank—but £200,000 is needed for structural repairs.

Chairman of the appeal committee, Mr Michael Soole, 20, a third year politics, philosophy and economics student at University College, said last week: "The new charitable trust will be called the Oxford Literary and Debating Trust. It has already been approved by the Charity Commissioners and will be for the advancement of education in Oxford by the provision of debates and libraries."

The bulk of the property will be conveyed to the new trust, and the appeal money will be used for grants for education and libraries.

Essex confrontation threat after students suspended

Further confrontation is threatened at Essex University after the recent suspension for one year of six students whom the disciplinary committee found guilty of disrupting an examination.

One of the six, who was also charged with causing damage to property within the university, was suspended for a year and fined £25, of which £10 was suspended, provided he is not found guilty of another serious offence.

All the students have the right to appeal but by Monday only one had done so.

Mr Colin Beardon, the Communist president of the Essex students' union, said the students were suspended for taking part with about 200 other students in the disruption of an examination. The union had only decided on this action after university officers had continually harassed rent strikers and forced them to sign documents under duress.

He condemned the sentences as "victimization" and said they worked against easing the tense relations between the university administration and the student body and, in fact, inflamed the situation further.

The union has called on the Association of University Teachers to condemn the sentences because the students' union gave full support to the AUT's industrial action against the examination process earlier this year.

Mr Beardon said he saw the sentences as part of a policy of "continuing provocation" on the part of the university authorities.

"Their complete failure to deal with any of the major problems of this university highlights once again the complete inadequacy of the Annan report and the need for a truly independent inquiry into the running of the university. In the meantime, unless there is a radical change on the part of the university authorities, it is inevitable that there will be another major confrontation at Essex University in the near future."

Confidence crisis rocks university bookshop

by Mark Jackson

Dillon's, the London University-owned bookshop chain, has embarked on an urgent drive to win back the confidence of the university's librarians, many of whom no longer use it because they claim it is inefficient.

The company has now persuaded leading publishers to grant it extended credit terms to help it weather an acute cash flow and management crisis which have threatened its existence.

A new chairman and a new managing director have been appointed during the last month by the court of the university. They have embarked on a crash reorganization of the sales, accounting, and stocking methods, and are planning major changes in the financial and staff relations policies, including the appointment of worker directors.

Dillon's, set up as a charitable trust by London University nearly 20 years ago, now sells more than £2½m worth of books a year. It made a small profit last year, but faces a loss of £57,000 in the financial year ending next month.

But the immediate threat to the company is not the deficit—which the university is expected to cover—but its inability to find enough cash to pay its current bills. During recent weeks, several major publishers, including Heinemann Educational and the Book Centre have cut off credit: one publisher is owed around £30,000.

Mr Ken Stephenson, the company's new chairman, explained that a major factor in the company's crisis was the large amount owed by its big customers. Among the worst offenders are the universities.

But Dillon's new managing director, Mr John Shotter, says that while the defects of university accounting procedures in London and elsewhere do create long delays or lead to loss of revenue, the company's main problem lies in its own lack of effective credit controls and accounting checks.

Mr Stephenson and Mr Shotter have taken over in the last few months respectively from Mr Peter Parker, who resigned on June 10, and Mr Peter Stockham, who has now become a part-time director. Another director, Miss Una Dillon, who founded the bookshop for the university, has given up her post as deputy chairman. She has been replaced by Sir Douglas Logan, principal of London University.

An important factor in the management changes was a sales survey initiated without reference to top management by a group of the company's middle managers, which estimated that Dillon's was only getting around a tenth of the £1m or so which the university spends annually on books.

Most of the librarians questioned in the survey said they had stopped dealing with Dillon's or cut down—but its inability to find enough cash to pay its current bills. During recent weeks, several major publishers, including Heinemann Educational and the Book Centre have cut off credit: one publisher is owed around £30,000.

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Get involved with science says Beswick

A call for greater public participation in scientific and technological decision making has been made by Lord Beswick, Minister of State in the Department of Industry.

Addressing a meeting of science and technology ministers of member countries of the Organisation for Economic Cooperation and Development in Paris last week, Lord Beswick said we must develop a system of public involvement in such issues.

"We must constantly seek improvements in communication so that decisions which may well affect our future well being are made with knowledge and consent", he said.

"We will need to encourage participation in society at large, to encourage the press and television to contribute further to the discussion of the social implications of science and technology."

In particular, Lord Beswick said that more could be done through the education system to secure a deeper understanding of the wide implications of science and technology and the need always to give proper weight to moral and cultural values.

"Finally, we need to encourage the social responsibility of scientists and technologists so convincingly illustrated recently by the way scientists have alerted the world to the potential dangers of some aspects of genetic engineering", he said.

College may lose teaching places

Shenstone New College, Bromsgrove, could lose its teacher training places if recommendations from Hereford and Worcester Education Committee are accepted by the county council later this month.

A meeting of the committee on Tuesday week voted 21-18 to recommend to Hereford and Worcester County Council that a proposed merger between Shenstone and Bromsgrove College of Further Education to form a centre for higher education should go ahead but without teacher training places.

The 1,100 teacher training places allotted to the county after cutbacks would then be divided between Worcester College of Education (600) and Hereford College of Education (500).

Background, page 7

'Public spending will affect social policy'

Government policy would be increasingly influenced by consideration of the way social issues were affected by public expenditure, Sir Kenneth Berrill, head of the Government Central Policy Review Staff said last week.

He was speaking at a Centre for Studies in Social Policy research seminar organized by Vera Morris, lecturer at the Open University, and attended by senior Government officials and academics.

The seminar concentrated on the importance of measuring the overall effects of public expenditure in areas such as education, housing and the social services.

NEXT WEEK

Undergraduates and books conference special inset

David Walker on the University of the West Indies

CAFD column

A Level and After

Tim Albert on the survival stakes at Lancaster University

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Lord Annan defends PNL director

Text of a letter published in The Times *yesterday.*

Whatever may be one's views of the Senate House affair at Cambridge, no one supposes that council now exercises negligible authority, that a substantial number of dons want to depose the vice-chancellor, or that in certain subjects a Cambridge degree has become worthless through tolerated malpractices. But in the Polytechnic of North London the equivalent is practically the case.

To most people who know little of the history of the new PNL, the announcement that the court of governors has set up a committee to propose measures to ensure that Mr Miller, the director, should not change the decisions of the academic board or court, may suggest that Mr Miller is an overbearing tyrant riding roughshod over the constitutional authority of the governors and his academic colleagues.

The very reverse is true. From the time he was appointed, Mr Miller has been subjected to brutal and brazen treatment by militant students and their supporters among the academic staff, some of whom openly champion disruption). He has been physically assaulted and his attempts to re-establish academic standards have been defied and flouted. Worse still some governors have supported these students.

Affairs at the polytechnic are a public scandal. Six times between 1971-74 meetings of the court of governors have been disrupted, five ending in pandemonium. As the court does not meet all that often, this is something of a record. The academic board has been disrupted five times.

In the course of eighteen disruptions, two occupations, the breaking open of files, the stealing of documents and the constant libelling of members of staff, not one student has ever been expelled or disciplined, nor the staff who supported the disruption ever brought to task. Although the students' union's income totals £68,000, no accounts were published until 1974 and they were then meagre and uninformative.

Those are facts. The inferences which, it has been put to me, flow from those facts are alarming. The process of intimidation by the militants—the union International Socialists and their adherents—has alienated the mass of students from it. Many members of staff have been terrorized into adopting a neutral role.

One member of staff, who wrote to *The Times*, was begged by another to desist: "We want peace here not principles." Since the governors are habitually abused and insulted, some absent themselves, one has recently resigned, and others have now adopted a despairing policy of appeasement and vote with those who are determined to sack Mr Miller.

That, of course, has always been the aim of his most malignant opponents. Mr Roberts, the respected editor of the *Sunday Telegraph*, was chairman of the court of governors until 1974. When he was ousted from the chairmanship in a squalid manoeuvre which coincided with the absence from the court of those who would have opposed such a move, the student union paper published a telegram, purporting to come from the president of the NUS: "Congratulations on deposing Roberts. Now for Miller."

What is the purpose of this committee which is to circumscribe Mr Miller's actions? The terms of reference seem to be an addition to whatever constraint is felt necessary to obtain business studies courses. To the outsider this is meaningless unless he realises that an inquiry into that department had to be set up and found that there had been "serious irregularities", the raising of marks and disregard of normal rules which in a university would have rendered those concerned liable to dismissal.

When it appeared as if Mr Miller's proposal to deal with this matter would be accepted, students broke up the meeting of the governors. It is for drawing the attention of the Department of Education and Science to the irregularities that Mr Miller is now convicted of exceeding his authority. Singular irony.

One of the complaints against Mr Miller raised in the discussion by the governors was that he had written articles in newspapers such as *The Times Higher Education Supplement* and had made controversial speeches condemning militant students and academic staff who supported disruption. If the committee ruled that the director of a polytechnic was only to make a speech, to write letters, or to publish articles which had been previously approved by his board of governors, a grave issue of academic freedom will be at stake.

The director of a polytechnic awarding CNAA degrees is not the hired hack of his local authority. Quite rightly academic staff in higher education are permitted to criticize publicly the institutions to which they belong. A vice-chancellor of a university or a director of a polytechnic, as the leading members of the academic staff, has just such a freedom, and it is in the public interest that Mr Miller should still be free to draw the public's attention to the state of affairs in his institution. All directors of polytechnics should be alive to this issue.

Mr Miller's supporters fear that his opponents on the committee—and they appear to be in the majority—will devise a simple tactic. Realising that the director cannot be dismissed out of hand, they will thus limit his discovery that he will be unable to function as director according to any normal interpretation of the duties of that office. Then, if in his attempts to function he breaks a link in his chain, they will be able after warnings legally to dismiss him.

Admirable work is done at the PNL. By this year 47 courses were validated for CNAA degrees. There are plenty of devoted teachers and excellent students wishing only to learn. But unless the governance is overhauled, PNL may become the first British institute of higher education to be politicized on some German universities have been.

I hardly know Mr Miller. Nor can I say whether, had I the misfortune to be in his place, I would have acted as he did. But it is largely due to Mr Miller, and not to his opponents, that major improvements have been made in the running of the polytechnic, that faculties have been set up, appointments committees made academically respectable and the tyranny of rule by mass assembly in some areas have been averted.

Sympathize with those lay governors who have supported him being unwilling any longer to endure the continuous abuse and humiliations to which they are subjected—why should those who serve voluntarily submit to such treatment?. But those who believe that peace can be bought if Mr Miller is somehow expelled will find that the price in the end which they pay for it will be the destruction of the polytechnic as a respectable academic institution.

Undergraduates and books: pages 13-15

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British firms form overseas project agency

by Frances Gibb

Three major companies have jointly set up an agency to provide a management service for large educational projects overseas.

The agency, called Millbank Technical Services Education (MTSE) Ltd, has been formed and financed by John Laing International, George Wimpey and Co, and Millbank Technical Services in collaboration with the British Council.

It will coordinate and supply expertise in all areas involved in educational projects oversens: equipment, design, construction and vocational training.

The advantage for overseas countries is that they will deal with one body rather than a number of individual firms, which will integrate the training, provision of staff and equipping of buildings.

The unit was formed initially after consultation between the British Overseas Trade Board and Millbank Technical Services to deal with a major project between Saudi Arabia and the British Council involving the building of a seven-faculty university.

Millbank Technical Services Ltd is a subsidiary company of British Crown Agents, who are commercial agents for overseas governments. Millbank Technical Services tenders for contracts involved in BCA's projects, gives advice and offers a general management service.

The British Council's new Paid Educational Services Unit (PES), set up to assist developing nations mount educational projects as part of a package deal which includes contracts with British industry, will manage the educational work of the new unit.

Mr Derek Board, controller of the education and science division at the British Council, said: "We are delighted to support educational efforts from MTSE, but we must consider if in a given country's situation there is a role for its approach, or whether another is more suitable."

General Sir John Hackett, principal of King's College, London, who originally proposed setting up such a unit, said that MTSE did not really meet the needs as he saw them.

Too many books, Sir Frederick says

Sir Frederick Dainton, chairman of the University Grants Committee, echoed the fears of many booksellers and librarians at a conference on students and books at the weekend that there had been a "wild uncontrolled production" of books during the past 10 years.

Sir Frederick suggested that universities could make do with fewer books, if authors and publishers thought more carefully about texts, particularly within the context of courses. Too many books would submerge the poor student in an ocean of printed matter.

Dealing with university libraries Sir Frederick argued that funds would be better spent on improving existing buildings, rather than on capital programmes for new ones. A UGC working party was looking at questions of library use and design.

Leader, letter page 12
Conference report, pages 13-15

'UGC uses student numbers as sole basis for distribution'

by Alan Cane

The University Grants Committee may be contributing to financial inefficiency in universities, according to new research carried out by two Bradford University economists.

Their results suggest that the UGC distributes recurrent grant according to a formula based on student enrolments. They conclude: "This is not consistent with the traditional picture of the members of the UGC carefully evaluating the different submissions and distributing government funds according to their evaluation of the merits and needs of the applicants".

The research, by Dr W. R. Cook and Dr J. E. Dunworth, will soon be published as part of a much larger analysis of economic efficiency in British universities. Their conclusions are based on a comparison of the way recurrent grant is distributed in Britain by the UGC and in Ontario, Canada, by the Ontario Committee of University Affairs (CUA).

The CUA was modelled on UGC lines and was set up as a buffer between the Ontario universities and the government. It distributes recurrent grant, however, according to a formula which depends on the student load in the major subject areas at each university.

Cook and Dunworth used Department of Education and Science statistics to relate recurrent grants to British universities with student enrolment using the weightings of the Ontario formula to determine student load. They say: "The results were astonishing". The actual distribution and the distribution calculated By the Ontario formula was virtually identical as shown in the table.

The results mean that 97.8 per cent or more of the variation in recurrent grants to UK universities is explained by the Ontario formula in each of the five years for which figures were available.

Even between the colleges of London *University the Ontario formula* could explain at least 83.2 per cent of the variation.

"To test the sensitivity of the weights we repeated the regression using other weights. We continued to get high correlations but the weights of the Ontario formula were significantly better. This means not merely that student enrolment is the major factor in determining recurrent grants, but that the Ontario weighting of the various subject areas is better even than the weights suggested by the UGC for calculating student load."

They offer three explanations for their results: (i) The UGC uses the Ontario formula, but for its own reasons does not choose to admit that it does so; (ii) the committee itself is not aware of the formula, but its work is done by civil servants who do use it and the committee does not significantly alter their recommendations. (iii) the UGC relies heavily on the staff/student ratio to decide the number of staff positions which any university should have, and feels it necessary to comment critically on any variation from these norms.

They go on to say: "If we analyse the expenditure of the various subject groups at the United Kingdom universities in relation to student load we again find a strong linear relationship indicated by high correlation, especially for the major subject areas, but the differences between the subject areds, especially the difference between arts and social science on one hand and physical and biological sciences is consistently greater than that of the formula which explains the total grants.

"Moreover, in physical and biological sciences the figures show that cost per student rises as the Ontario formula, but for its own reasons does not choose to admit that it does so; (ii) the committee itself is not aware of the formula, but its work is done by civil servants who do use it and the committee does not significantly alter their recommendations. (iii) the UGC relies heavily on the staff/student ratio to decide the number of staff positions which any university should have, and feels it necessary to comment critically on any variation from these norms.

Academic year	All universities Correlation between formula entitlement and actual recurrent grant plus fees	Coefficient of determination
1966/67	0.989	0.978
1967/68	0.991	0.982
1968/69	0.992	0.984
1969/70	0.992	0.984
1970/71	0.992	0.985

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Cook and Dunworth conclude: "There is no reason why the UGC should be ashamed of using a formula but it is time it came clean.

"The UGC has argued that it keeps its rules secret because it is afraid that university administrations would adopt the same formula in making departmental allocations. It would not matter if departmental allocations followed the formula, provided it did reflect the incidence of cost in various situations. If it does not, the solution is to improve the formula, not to hide it as though it were a state secret."

2 departments each have 12 staff and no students

by David Walker

A student reading education costs over 900 per cent more at Warwick University than at Keele University and an agriculturist at Reading can be taught for a third of the cost at Bristol or Oxford, according to new statistics from the University Grants Committee.

The latest volume of *Statistics of Education, No 6: Universities* reveals some striking anomalies in costs between different departments and the same departments in different universities. Each student in agriculture and forestry at Exeter University is ministered to, on paper, by at least one member of staff; at Bath and East Anglia 12 full time teaching and research staff cater for no students at all.

Differences in cost per student are marked in education and agriculture and-in subjects like business studies where Sheffield and Loughborough offer courses costing about a quarter of those at, say, Durham University or the Manchester Business School.

But the pattern of diversity shown by the UGC figures—which apply to the academic year 1971-72—is matched by confirmation of the old adage that those that have, get more. Oxford and Cambridge get more first class degrees, more endowment income and more research grants than most other universities.

A Cambridge student's chances of getting a first class honours degree are nearly 400 per cent greater than at Leeds University. Over 20 per cent of Cambridge graduates get first-class degrees, against nearly 5 per cent at Oxford and an average of 6 per cent elsewhere. Students at Leeds get just over 5 per cent while at Aberdeen the average is under 4 per cent.

Oxford and Cambridge still get a significant proportion of their total income from endowments; about £840,000 in both cases. They also take a lion's share of the income accruing to universities from research grants and contracts. Cambridge gets over £2.6m, or about 17 per cent of its total income, Oxford

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MAINTAINING THE STUDENT BODY

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Gaps in general knowledge alarm researchers

by Sue Reid

The results of general knowledge tests on students at University College, Swansea, were so disappointing that researchers think they raise fundamental questions about the nature of school and university education. The findings of a psychology research team at the university were published recently in the *Universities Quarterly*.

In 1973 geography students were tested on their ability to recall capitals of countries. This simple procedure provided evidence that knowledge which might be expected in any well educated individual was highly deficient, claims the Swansea research team.

Only 81 per cent of that group correctly named the capital of Czechoslovakia and only 75 per cent managed to name the capital of Belgium. The capitals of Sweden, Finland, Rhodesia and New Zealand were named by less than 70 per cent and only one student could recall the capital of Syria.

A further test of geography students' knowledge took place last year followed by a more general study of the knowledge of undergraduates earlier this year.

Geology and psychology students were tested individually on their knowledge of political and musical figures, authors, poets and miscellaneous items of general knowledge.

The research team say the results caused some disquiet. About one third of the students of both groups had three or less correct out of 15 questions on political figures. Less than one student in four knew the name of the Minister of Education, for example, and only eight students of the 78 could recall the Secretary of State for Wales, a disappointing figure for a Welsh university.

A comparison of the two groups revealed a similarity in respect to political and general knowledge, although the psychology students were significantly better on the arts section.

Among wrong answers that were pinpointed by the research team as incredible: Charles de Gaulle is still the President of France and Mr William Whitelaw is the Prime Minister of Eire.

The researchers now ask whether this lack of knowledge is a satisfactory state of affairs among the top few per cent of the population in terms of educational attainment. They claim schools and universities should accept some of the responsibility but students should reasonably be expected to inform themselves without specific instruction.

However, one gond feature of the study, say the research team, was the number of students who, as a result of their ignorance being revealed, resolved to inform themselves better in the future.

92 l.e.a.s chase literacy drive funds

More than 75 per cent of the local education authorities in Britain have asked for a share of the £1m set aside by the Government to combat adult illiteracy and already 5,000 volunteers are training to become specialised teachers, says the Adult Literacy Resource Agency.

To date 92 authorities out of the 116 in England, Wales and Scotland have applied for money and received a total of more than £500,000. Voluntary organizations have been given £40,000 and £30,000 has been earmarked for special projects.

Now, in a progress report, Mr H. D. Hughes, chairman of the resources agency set up to distribute the money four months ago, says the response has been magnificent even in the light of the national concern about the large number of adults with severe reading and writing difficulties.

Local education authorities had been given approval for important initial expenditure and it might be possible to be more generous to a number of them later in the year when final requests for money were known.

Projected expenditure was likely to total more than £955,000 and any reserve would be allocated before next March.

Mr Hughes, who is principal of Ruskin College, Oxford, predicts the money will have a crucial effect on literacy. He sees the programme as the most exciting initiative in basic adult education for many years.

Mr Bill Devereux, director of the agency, underlined the importance of tutor training and said 42 per cent of the money would be spent in this field. Volunteers had come from every walk of life and although there was a serious shortage of teachers, 5,000 volunteers were already being taught to teach with the help of special kits. The agency would be pleased if 10,000 volunteers were trained by the end of the year.

He estimated that nearly one quarter of the money would be spent on audio-visual and technical equipment although the agency had watched this aspect of spending carefully. A number of authorities had been persuaded to accept a substantial cut in their applications for money for equipment.

Warwick threatens rent rebels over degrees

by Jane Headley

Students who withheld rent last term at Warwick University to protest against increased charges for university accommodation may have to leave the university before completing their degrees.

Rent strikers received letters from the university asking them to appear before the finance and general purposes committee this week to state their reasons for not paying rent.

Mr Michael Shattock, the academic registrar, said this was normal procedure. "The university is governed by an ordinance stating that if such debts have not been paid by a specified date students may be asked to leave the university.

"We have written to all students in debt to the university, including those on rent strike, inviting them to appear before the finance committee to explain why the debts have not been cleared".

Rent strikers had already been warned they would not receive university accommodation next year and that a 15 a late payment fine would be imposed. In keeping with university procedure final year students in debt did not receive their degrees at the end of last term, Mr Shattock said.

Mr Kasper de Graaf, president of Warwick University students' union said: "The ordinance is clearly intended for individual cases of debt and we don't think it should be used for collective rent strikers. The university has used last term's occupation as an excuse for not calling a meeting of the finance committee in term time when students could have considered what action to take."

Warwick students now face even higher charges for university accommodation. The university council agreed this week to increase rents for a room from £6.50 to £7.60 a week. The students maintain they cannot afford to pay more than £5.60.

At the start of the summer term students occupied the university's administration building for over three weeks in protest against rent increases from £4.82 to £6.50 a week. There is now a strong possibility that further protest action against the new increases will be taken at the start of the next academic year.

The National Union of Students has called a one day conference of all its constituent organizations on September 13 to coordinate national action against rent increases and other rising costs faced by students.

St Andrews may be in red by £100,000 v-c warns

The University of St Andrews is likely to run into the red during the next year and the total deficit may reach the £100,000 mark, Dr J. Steven Watson, the vice-chancellor, has predicted to the university's general council.

He said St Andrews had been exceptionally frugal over the past five years and had succeeded in avoiding a deficit but now the University Grants Committee had announced the university's provision for 1975-76 which seemed to be miscalculated.

"St Andrews seems to us to have been shabbily treated. We have been able, by putting together answers in Parliament, through the former Secretary of State for Education and Science, to make a league table which shows the comparative costs per student of the universities in the United Kingdom. In this table St Andrews has fallen heavily."

Many Scottish universities had been kindly treated but St Andrews now came next to the end of the table having fallen from a middle position.

Dr Steven Watson said that the next year's deficit was not expected to be less than £100,000 even if every economy was exercised. It was hoped that at the end of the 12 months the inequity of the situation would be corrected for the final year of the quinquennium and for the next quinquennium.

In line with government policy and to conform with the expectation of buoyant applications in Scotland the university had been told to increase its student target for 1982. But St Andrews could only hope to have realism in planning by stating its own position clearly and forcibly. It would be offering a revised plan for the 1982 target showing decreased, not increased, student numbers.

Calling for an urgent reappraisal of the situation, Dr Steven Watson said the UGC was unable to take any effective action until the proper outlines of government policy, with consequential finance, were made known.

If the decision not to compensate universities for the effects of inflation had not been modified by the substantial supplementary grant last year a number might have been insolvent by now, Sir Dermah Christopherson, vice-chancellor of Durham University, told a convocation address last week.

He said if inflation next year continued at about the same rate as in the past year Durham would be able to continue its present level of activities. But if the situation became worse universities, like everybody else, would be involved in a crisis.

Sir Dermah said the staff to student ratio at Durham had deteriorated by about 7 per cent since 1973. A number of posts had been left unfilled to allow additions in areas of greater need, and non-academic expenditure had been cut severely.

FE sociologists 'have lost sight of real issues'

by David Walker

Sociologists have been so preoccupied with establishing their positions in technical colleges and further education that they have lost sight of the real questions about power and authority in education, Professor John Eggleston, of Keele University, told the second annual conference of sociologists of further education recently.

He said that like other further education teachers they concentrated on day release classes and getting their subject into liberal studies syllabuses, at the expense of "responding to the realities of further education". They should look at professional roles among staff, and ways in which colleges became part of society's "power structure".

Professor Eggleston traced the way in which changing job prospects had affected sociologists in further education. Staff who previously would have gone into universities or polytechnics were forced "down market" for jobs, but this had not always meant through in the kind of work being done. Few of the assumptions underpinning day release, for example, had been questioned.

The organizers of the one-day conference, held at the Kingsway-Princeton College of Further Education, hoped to provide some kind of answer to Professor Eggleston in the papers they had chosen, many of which were analyses of the policy adopted by government and local authorities on further education.

The development of theory was not neglected. Mr Les Brook, a teacher at Brooklands Technical College and a prominent member of the Association of Teachers in Technical Institutions, described the beginnings of a Marxist sociology of further education.

Overgrown schoolboy professor jibe starts ding-don row

by Laura Kaufman

In a strongly worded article in the June *New Review*, Mr Peter Conrad, a tutor in English at Christ College, Oxford, has attacked Dr John Carey for his description of dons as "overgrown schoolboy professors likely to acquire a high opinion of their own abilities".

Mr Conrad writes: "The radical antics of students brought our universities into disrepute in the first place . . . now it appears that society has chosen to revenge itself on the universities by downgrading the academic profession".

He accuses Dr Carey, also a tutor in English and a fellow of St John's College, Oxford, of being a "traitorous clerk" and of injuring the academics' pay claim.

In the January issue of the magazine Dr Carey had complained that Hugh Lloyd Jones, a regius professor of Greek at Oxford, had "no inkling that, as against a miner or a power worker, his own contribution to the community was of uncommonly little consequence."

He also criticized dons for signing letters in the press condemning foreign governments for their treatment of minorities. "A don is about as well placed to start clamouring for liberty as a bodyguard", he said.

Mr Conrad replies that academics are mostly non-materialistic creatures, well equipped for the role of "nouveau poor" since they have never set much store by the accumulation of possessions.

"The gorging and swilling snobs of Dr Carey's article, with the bray of asses and the chirp of budgerigars, are monstrous hybrids from the satirist's imagination and do not correspond to the truth.

"The extreme reluctance with which some dons prepared themselves psychologically for withholding examination results, and their relief when arbitration made this unnecessary, contrasts with the bloodier minded attitude of French academics, who employed this threat against the government with notable success."

There is evidence, he adds, that letters to the press by academics had some effect in shaming the Greek colonels who were persecuting writers, just as the press campaign in this country helped to secure the release of the Panovs.

"This liberalism", he writes, "has worked to the disadvantage of academics themselves since their restraint in negotiating post pay rises has encouraged the Government to turn into the cowardly bully of the school playground, capitulate to those who can embarrass it while mainly penalizing a former ally who is considered weak".

Defending the universities as both essential and useful, Mr Conrad cites Harold Perkin's book *Key Profession* in which he argues that "the modern university was redly covered after centuries of clerically-ridden decadence by an industrial society which required an institution to select and train its leaders, and that in the economic regime of managerial capitalism the academic profession is crucial because it educates other professions".

Mr Conrad says that we are witnessing not a class struggle but a rising of organized sections of the working population against the nation as a whole. Liberal qualms were irrelevant in such a situation. The victims of inflation "are not only professionals, but also the most ill-paid workers who, like academics, dispose of no weapons for economic blackmail, and groups such as the selfemployed and those on pensions".

The DES, he writes, had had to admit that 196 academics had emigranted last year.

Extracts from Dr Carey's article were published in *The THES* February 21.

Barred president's case heard

Two Oxford law dons have considered the appeal against the Oxford Union's decision to bar from office the president-elect, Miss Vivien Dinham.

The two dons, Mr Roy Stuart, of Hertford College, and Mr J. Hackney, of St Edmund Hall, considered evidence on Monday from 9.30 am till 10 pm and then adjourned until today.

Miss Dinham was found guilty by the union's electoral tribunal of "malpractice" and was disqualified for throwing a party which, they estimated, 300 people attended shortly before the election. This was interpreted as conduct likely to influence the result.

Mr David Soskin has taken over as president-elect after Miss Dinham's votes were redistributed among the other candidates. He will take office if the appeal is unsuccessful.

Miss Dinham denies the allegations and said recently: "I have never canvassed. I gave a party to which about 150 people came, and I invited the three other candidates, of whom two came. If I had been intent on canvassing, I would obviously have chosen a different cross-section of people."

The tribunal which declared her free from office was chaired by Miss Caroline Lewis, a barrister and former librarian of the society, sitting with Mr Peter Hayward, of Nuffield College and Mr Sinclair Lewis, a Balliol postgraduate.

Mr David Thomas, classics postgraduate who is representing Miss Dinham, argues that the allegations were not handed in to the proper person, that they were handed in too late, and that the tribunal was biased. Only evidence relating to this first argument was heard on Monday.

Mr David Soskin, who is being represented by Miss Ruth Stanley, a law finalist from St Hugh's College, said recently: "The tribunal was legally constituted, unanimous in its verdict, and chaired by a barrister.

"One of the members, Mr Lewis, has been away from Balliol for two years doing research. Those were not people involved in the political activities of the day."

DES considers cut of one third in student teachers

A reduction of nearly a third in the number of student teachers entering colleges of education in 1976 has been proposed by the Government to combat the danger of rising unemployment in the teaching profession.

A private discussion paper has been circulated to members of the Advisory Committee for the Supply and Training of Teachers, the Government's chief advisory committee on teacher numbers, which proposes to accelerate the reduction of teacher training places between now and 1981.

Students entering colleges would be reduced from 29,000 this September to 20,000 in 1976. Under previous plans these would have fallen to 23,000 in 1976 and to 17,000 in 1977.

The Government has indicated that if the numbers were kept at 23,000 in 1976, full employment could not be guaranteed to students entering college next year.

The proposals, to be discussed at a special meeting of the advisory committee on July 24, are bound to cause concern among teachers' unions and the 11,000 college lecturers, some of whom are already facing redundancy under the present reduction programme.

A Department of Education and Science spokesman confirmed that a paper on student numbers was to be presented to the next advisory committee meeting. He declined to comment on the content of the paper.

Sir Walter Adams memorial service

The appointment of Sir Walter Adams to the directorship of the London School of Economics in the late 1950s gave an opportunity to the "purposeless revolutionaries" that was too convenient to miss, Professor Ralf Dahrendorf said last week in a memorial service for Sir Walter.

He said Sir Walter had been used as a symbol and made to suffer. "It is to his credit that contrary to many others he neither withdrew to some cosy sanctuary nor hardened his view of students, or any member of the university, to the point of regarding them as opponents, indeed enemies."

The service, attended by many leading personalities associated with London University, was held in the Church of Christ the King in Gordon Square in the heart of Bloomsbury. A lesson was read by the Reverend Professor Robert Craig, principal of the University of Rhodesia.

The congregation also heard Professor Joel Hurstfield of University College give an appreciation of Sir Walter. He also drew attention to the effect of the student disruptions on Sir Walter.

Educational research

The first annual conference of the British Educational Research Association is to be held at Stirling University in early September. Further details from the department of education at Stirling.

Annan denies 'ulterior motive' in PNL letter

by Tim Albert

The origins and timing of the flurry of correspondence in *The Times* over the Polytechnic of North London seems to have baffled most people there this week.

Lord Annan, whose letter (printed in *The Times* and *The THES* last week) sparked off the correspondence and leader, declined to say where his information had come from.

But when told that many people at the polytechnic were wondering what had prompted him to write the letter, he said: "There was no ulterior motive, or anything like that.

"I can only say that I had to do this, that it was my duty. I got no pleasure out of it at all. But is this place going to be run on the basis of whenever anything happens which certain people don't like the whole place is disrupted? Or is it going to be a place where academic standards, procedures and conventions are allowed to continue. This is the politics of civility. That's what it's all about."

The director, Mr Terence Miller, was not commenting on the matter, nor were a number of governors. Nevertheless some staff, students and governors were putting forward privately a number of theories.

One was that the timing of the letter was intended to stimulate support for Mr Miller during the ongoing investigation of the director by six governors. This follows two incidents when the director privately dissented from two official committee decisions, and is aimed at trying to prevent a recurrence.

The report is being drawn up by a sub-committee of governors, and could be ready within a matter of weeks.

A second theory was that it is part of a general attempt to gather support for Mr Miller, and that its timing was based on the fact that term at the college had already ended, making organized protest very difficult.

A third theory is that the letter was inspired by Mr Bryan Roberts, editor of the *Sunday Telegraph* and a former chairman of the governors of the polytechnic. But Mr Roberts said this week that that was totally untrue. "I knew nothing about it until I saw it in *The Times*", he said.

A fourth theory was that the letter was some part of a wider, rightwing reaction. Mr John Purton, one of the staff representatives on the court of governors, said: "It is not insignificant that this is a time of political crisis.

"The rather shrill tones of the original letter reminds one of witch-hunting, which has gone on in the past in times of political crisis."

In his letter, Lord Annan called affairs at the polytechnic "a public scandal" and strongly defended Mr Miller. Letters of support followed from Professor Julius Gould, and two from three teachers of the polytechnic who are at present gathering information for a proposed book on what they call the sad history of the polytechnic.

Letters of protest have come from the students union at the polytechnic, Mr Charles Clarke, president of the National Union of Students, Professor Donald McRae of the London School of Economics, and Mr P. G. New of the polytechnic's school of librarianship.

● Mr John Diamond, the former vice-chairman, has been elected acting-chairman of the polytechnic's governors, following the resignation of Dr Walter Ross.

Mr Diamond, a businessman, will hold the position until next March when formal elections take place.

● The polytechnic has "considerably improved" during the past two years, according to a visiting party of the Council for National Academic Awards which completed an inspection recently.

The CNAA, which will report in full on July 22, spoke of improvement in the organization and academic development of PNL.

Court reform offers students better representation

Edinburgh University this week took the first formal steps towards a reform of its governing body, the court, which will provide students with three places but will remove the rector from the chairmanship.

The court approved a draft ordinance which now has to go to the general council and the senatus for observations, and has to be displayed publicly within the university for eight weeks.

Thereafter it will come back to the court, probably in November, and then it goes to the Privy Council, a procedure necessary under the Universities (Scotland) Act.

Before the court meeting Sir Hugh Robson, principal, said the proposed changes were a major step towards the democratization of the university's governing body, and in terms of student and non-academic staff representation put Edinburgh ahead of other British universities.

He thought the Privy Council might regard the proposed student representation (three persons on a court of 21 or 22) as too large. In England the tendency was the Privy Council had gone very far to approve constitutions giving students three or four representatives on councils of about 50.

He thought giving students three direct places was preferable to the present situation in which students had obtained representation by electing a student as rector, and he in turn appointed a student as his assessor.

This was a clumsy way of doing it, and did not give full recognition —as the draft ordinance did—to the need for student representation.

The court, he said, should elect its own chairman—who ought ideally to be a lay person, not in any way answerable to or involved with any sector of the university. He personally would not wish the chairmanship.

With the rector in the chair, though he acted with commendable technical competence, business had had to be done in a strange atmosphere.

Later the court decided to delete from the explanatory memorandum attached to the draft ordinance a clause saying the exercise of the office of chairman by a student had not proved conducive to impartial chairmanship or the general efficiency of the court.—TESS.

'Breakthrough' for AUT in Cambridge decision

Cambridge University has agreed to recognize the local branch of the Association of University Teachers for academic and related staff.

The agreement follows six months of discussions. Mr John Akker, AUT assistant general secretary, said: "It is a significant achievement for the association." Membership at Cambridge was now around 700, about 50 per cent.

The association and the university will be setting up joint consultative machinery to look at various local problems.

Mr R. E. Macpherson, Cambridge University's registrar, said that there had been no reluctance to agree to AUT recognition. The series of discussions concerned internal bodies.

Free speech defence trust set up

An educational trust has been set up to aid victims of censorship at home and abroad and to establish a library and information service on freedom of speech and writing.

At a reception on Wednesday Lord Gardiner, formerly the Lord Chancellor, appealed for funds for the Writers and Scholars Educational Trust saying there were few countries in the modern world which did not censor or attempt to control men's minds.

Plans to supply books and information to universities and colleges were dependent on getting about £42,000 a year, which he called a modest sum for the preservation of the most important of human rights, freedom of speech and expression.

Boost for Ulster drama

English studies at the New University of Ulster have received a Nuffield Foundation award to develop work in teaching drama through practical classes, exercises and productions.

Water work at Sheffield

Sheffield Polytechnic is to offer a full-time eighteen week course in water engineering and pollution control leading to a Council for National Academic Awards postgraduates diploma from September, 1975.

Photography students 'almost unemployable'

by Jane Feinmann

Photography students on degree courses in polytechnics are likely to be dissatisfied with the syllabus and virtually unable to find employment after graduating, a seminar on photographic education was told last Saturday.

The seminar was organized jointly by the Society of Industrial Artists and Designers and the Society for Photographic Education. Mr Eric Waughray, general secretary of the Institute of Incorporated Photographers, said there was a strong feeling among professional members that the end products of polytechnic photographic courses were not satisfactory because most of the students had no business sense whatsoever and were unprepared to cope in society.

The crux of the problem was that employers wanted employees to be adequately trained while teachers at polytechnics wanted to give students a full education.

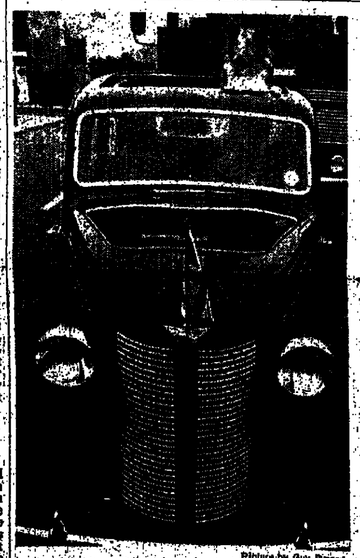
Some years ago the IIP introduced the Professional Qualification Examination, a three-year course whose syllabus was written by the institute's lecturers.

It had been found that graduates of the course were too well educated and often lacked the appropriate skills to move happily into vacancies in photographers' studios.

"We were therefore reluctantly forced to introduce what we euphemistically call a vocational scheme, which is a two-year course, with O-level entry and what it does seem to fill the bill."

Mr Waughray called for a nationally recognized and centrally financed examination system in photographic education which encompassed the various courses now offered from the Printing and Publishing Industry Training Board at the bottom end of the scale to membership of societies like SIAD at the top end.

The usefulness of advanced photographic training was also questioned by some of the academics present.



Picture by Guy Rivaud

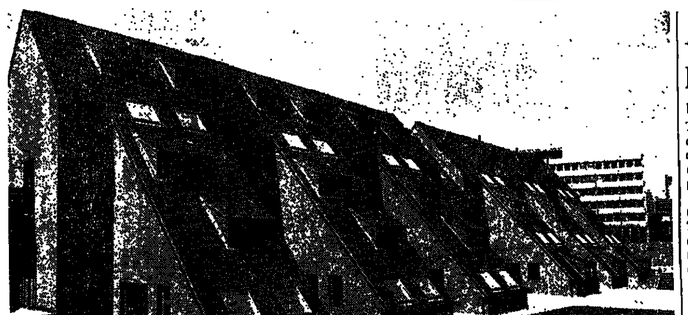
Talent, imagination and a degree may not guarantee photographers employment.

Management given £25,000 award

The Foundation for Management Education has awarded Bristol Polytechnic £25,000 for a training project for teachers of management subjects. The grant, spread over three years, will be administered by the south west regional management centre.

Languages for immigrants

The Department of Education and Science has helped to launch an immigrant workers' language tuition scheme. Local authorities are to be encouraged to set up language training units within work situations and with 75 per cent government financial backing. A national centre for industrial language training hub been set up in Southall, London.



The ridged slabs of this recently opened student residence development at the University of Manchester have earned the buildings the nickname "Toblerone". Whether they are appealing enough to eat remains to be seen.

Oxford research hit by funds redistribution

by Alan Cane

Essential research equipment, including superconducting magnets and electron microscopes, have been closed down at Oxford University because the money to run and maintain them was needed elsewhere, a Commons select committee was told last week.

Professor J. H. Burnett, vice-chairman of the Oxford General Board of the Faculties, told the Select Committee on Science and Technology that research in every department had suffered a reduction in tempo; the university had used up to 15 per cent less electrical energy in the past year.

The select committee visited the university to hear evidence from a panel of university witnesses which included Professor Sir Denys Wilkinson, Professor Sir Peter Hirsch and Dr R. E. Richards, Warden of Merton College.

In a written submission, the university warned that there was considerable alarm over job prospects for junior academics and for research workers outside universities. The university suggested that much of the uncertainty could be removed if the research councils were to turn to the "programme grant" system of sponsorship pioneered by the Medical Research Council where support is given initially for five years, renewable for a further five year period. "Introduced to provide stability for research teams and to assist departments in long term planning, they are especially to be commended to the other research councils", the university said.

It went on to say: "Programme grants and special fellowships would reduce concern in departments which find that research tempo is depressed by the enforced resort to short term planning. They would also ensure that a generation of research workers is not lost to the nation and, if demand outside the universities increases, a cadre of trained researchers will be available."

The university suggested that the best solution to the problem of funding research-based departments in financially difficult times would be a rolling quinquennium.

"Such an annual system would also permit a closer partnership between the university and the research councils and there could be close consultation in the drawing up of university and council estimates in respect of those activities in which they both have a large share."

While the university made clear that it was satisfied with the way the Advisory Board for the Research Councils had begun its work, it pointed out areas of uncertainty in the way the ABRC advises government and which it considers undemocratic.

It said it was not clear how the government considers the recommendations of the ABRC and how it arrives at decisions about them; it wondered whether the ABRC is the only channel of advice to government on science policy; and it queried the role of the chief scientific adviser. It said: "These observations are not criticisms so much as indications of areas of ignorance which, nonetheless, in the long run affect the activities of every scientist in the country. In a democracy it is to be expected that such knowledge would be available."



A farmhouse is a farmhouse is a sports club. The old farm, above, has been transformed into the modern clubhouse, below, for the sports and social club of the University College of Wales, Aberystwyth. In the process it has acquired a European Heritage Year Award. The official opening was on Wednesday.



College job selection tests 'waste of time'

by Sue Reid

Ten shortlisted candidates applyidg for the post of head of engineering at Harrow College of Technology and Art were asked to complete a series of management exercises as well as taking part in a formal interview. Now one of the applicants has questioned the motives behind this procedure which he claims cost time and public money.

The candidate, Dr Jack Howard, of the University of Aston, says the day-long selection process might well have been completed as successfully through a normal interview and the extensive use of references. For, he adds, the applicants were all highly experienced and in such an evenly matched field there was not much to be gained by the management tests.

The exercises were split into three distinct parts over the morning of the interview day. In the first all candidates were taken into a room and given a large envelope containing 13 assorted letters, memoranda or messages which might appear in a head of department's in tray. They were asked to decide on the action required on as many of the documents as possible in about 30 minutes.

The second test required each applicant to choose a different topic, introduce it to the other candidates and act as chairman while it was discussed. He was expected to end the discussion and sum up within a time limit.

For the third exercise candidates appeared before a panel to make a five minute personal statement on his views and approach to the job, if appointed. In the afternoon five named applicants, including Dr Howard, were then asked to stay for a formal interview which took the usual form.

But Dr Howard, who did not get the job, says: "One wonders whose idea it was for highly paid public servants — one of them apparently qualified in personnel management, to spend their professional time and public money on subjecting a large number of highly qualified, experienced professionals to this kind of charade.

"They are deceiving themselves if they think their method gives them the man they want or helps them make a wiser choice. It is an extremely expensive process and I don't think the results are much better", he alleges.

He stresses the candidate chosen was an excellent man for the job, but adds he was not the only applicant to question the method of interview.

Harrow College of Technology and Art has defended their choice of interview process. Mr Hedley Anscombe, the principal, said: "We have found this method has helped to identify some qualities in candidates which might not become apparent by other means of interview. We are aware of the inadequacies in the formal interview procedure and are attempting a more adequate procedure."

He claimed it was better to stage the management exercises than just have the alternative method of sitting the candidate in front of a committee. Anyone who complained about the system would be well advised to see if they could think of a better one.

Mr Anscombe said that the college, with one exception, had only used the method to select heads of department. He added that when salaries of £10,000 a year were being paid to academics in top posts an overall investment in a man of £100,000 plus could be paid out by colleges over 10 years. This investment had to be considered seriously.

Mr Roy Hulbert, vice-principal of the college, instigated the selection procedure at Harrow. He said the first management test was aimed at discovering a candidate's speed, accuracy and judgment in administration procedures. The second exercise tested the subject knowledge, initiative, decisiveness and leadership qualities of applicants while the third was aimed at assessing his interests in the job and its requirements.

Mr Hulbert pointed out that the college was not advocating the method as perfect, but it did seem to cut down the risk of expensive

Employers still like graduates

Less than 2 per cent of students graduating from the University of Surrey in 1974 were unemployed at the end of the year, a report by the university's careers advisory service has shown. Figures released reveal that of the 553 graduates only six were unemployed six months later.

The report says that at least 63 per cent of Surrey graduates last year had found suitable employment in this country by the end of the year. Others entered specialized training, continued academic study or took temporary jobs.

An increasing number of graduates—21 per cent of the 351 entering employment—went into accountancy, banking, insurance and other commercial sectors. There was an increased demand for science graduates in commercial fields.

The University of Sheffield's careers advisory service noted the same demand from manufacturing and commercial sectors, during the year. Employers' interviewing activities at the university increased in the spring and the total number of interviews rose by 27 per cent.

A report by the advisory service said that while more Sheffield students entered industry and commerce there was a noticeable fall in the percentage of both arts and science graduates choosing teacher training.

It added that this year, despite inflation, the overall employment situation had remained buoyant.

Old files 'can aid research'

Records held by government, schools, hospitals and businesses could be more fruitfully used for research, according to a new report from the Social Science Research Council.

The report of an SSRC committee, set up to investigate "longitudinal studies" of what happens to an individual or group over a period of time, said administrative records could produce much new information.

It added that there was a need for this type of longitudinal research into the acclimatization of immigrants in a new country, the growth of new communities and the effect of changes in the law or in education.

The report evaluated this kind of research as against "cross-sectional studies" and controlled social experiments and concluded that the SSRC should set up a separate panel to look at all requests for research funds involving longitudinal methods.

The SSRC committee, including Professor Hilde Himmelweit, the social psychologist, and Professor G. G. W. Kalton, the social statistician, and chaired by Professor Fred Martin of Glasgow University, was set up because of the special problems this method of research posted in the National Child Development study looking at the progress of children from birth through childhood.

"Longitudinal Studies", a report of an SSRC working party, 50p.

Academics will be working class, says Marxist

The living standard of academics has declined in recent years such that they will come to identify their interests with the working class, according to a writer in the Communist Party journal *Marxism Today*.

Mr Martin Jacques, a former research student at Cambridge University, was not certain that academics would become what he called a progressive social force. Many were older and attached to the establishment.

He said: "It should be noted that one of the problems facing the left in the universities at the present time is the fact that with the universities either expanding very slowly or actually contracting the intake of what might be described as post-1968 recruits (i.e. of students radicalized in the late 1960s) to the profession has been relatively small."

Nevertheless the drop in academics income was forcing them to take collective action and though their work was highly individualistic they had successfully come together for a strike organized by the Association of University Teachers.

Mr Jacques traced the development of higher education in the universities and also in the polytechnics which the state created to produce a large volume of skilled labour for the economy.

In the late 1960s the state, he said, reassessed its attitude towards the universities which through some kind of "premature" decision made in the Robbins report had been allowed to expand while retaining their traditional form.

"Over the last two years, however, the state has begun to subject the university sector to much greater pressure which, though taking a largely financial form seems designed to effect major changes in the nature of the sector."

Mr Jacques spoke of a "historical disjuncture" between the nature of the liberal traditional university and the educational needs of "monopoly capitalism".

"It is clear that the state has over the period since the mid-1960s come to recognize that disjuncture and it is now seeking to resolve it on the basis of a binary system of higher education consisting of an expanded technocratic polytechnic sector on the one hand and a "semitechnocratized" university sector on the other."

He went on to trace the strategy academics should pursue. Communists should defend the traditional virtues of the university against encroachment by the state and economy while at the same time working towards a new conception of the university. It should be made relevant to the needs of the working class by, for instance, a new and essentially equal relationship between universities and polytechnics.

Teach yourself how to question better

A self-instructional training programme aimed at improving teaching ability has been devised by Professor Elizabeth Perrott of the microteaching research unit at Lancaster University. It is designed to help in-service and trainee teachers develop their questioning techniques.

The course, called "effective questioning" was created as part of an international project initiated by the Centre for Educational Research and Development and was sponsored and financially supported by the Department of Education and Science.

Professor Perrott and her colleagues hope the course will be adopted at different courses throughout the country including colleges of education, polytechnics and schools. They envisage courses with the necessary video, audio or film equipment operating the course for teachers from a wide area.

A special field study using 28 in-service teachers, some with extensive experience, in the Lancaster area proved a resounding success. Teaching skills were improved and bad habits reduced.

The team experimented by testing the teachers' abilities immediately after the course, and after completing the course, and four months later. Results showed that the percentage of lesson time wasted by teacher talk was reduced by more than 20 per cent after the course and the time saved remained at about the 14 per cent level four months later.

The course, while effectively cutting costs, provides scope for trainee teachers to practise teaching skills and then exercise self-criticism about their performance. It has, says Professor Perrott, already created interest among university teachers and among educationists abroad, especially in developing countries.

'Disorderly AUT'

The Association of University Teachers' threat to withhold examination results was comparable to the disorderly behaviour of students, according to Lord Robbins, chancellor of Stirling University.

He told the university's graduation day audience last week that teachers had an obligation to their students as binding as the Hippocratic oath of medical doctors.

Drama award

English studies at the New University of Ulster have received a Nuffield Foundation award to develop work in teaching drama through practical classes, exercises and production. The money, to be spent on capital equipment and work in local schools, is expected to stimulate the activities of the university theatre, due to open in six months time.

Randall joins CSU

Mr John Randall, 27, retiring president of the National Union of Students, is to become an assistant secretary in the Civil Service Union, which negotiates for 43,000 members. He takes up his appointment on August 1.

Mr Hugh Bayley, another member of the NUS executive, has been appointed a staff officer in the National and Local Government Officers' association.

Earth Sciences

A new applied science degree offering options in earth and resources sciences is to be offered by Kingston Polytechnic from September.

Students will take a common first year curriculum covering atomic, life and molecular sciences. During the second and third years students will specialize in earth or resources science. Both options involve field and laboratory work.

Don's diary

Monday

Up, up and away in a beautiful DC10. Ten seats to a row, and we are in the middle bank with no view of the weather outside. I have joined the international higher education "jet set", and am on my way to a summer institute in New York on "The Contemporary European University: Mass Higher Education and the Elitist Tradition".

The City University of New York is the pioneer of open admissions—no entrance qualifications whatever—and may be presumed to know something about mass higher education and its effect on elitism. Now it wants to know what is happening to excellence in scholarship in Europe under the impact of expansion.

But, you will say, the City of New York is bankrupt, and has only been rescued from financial collapse by "Big Mac", New York State's Municipal Aid Commission. How can they run international conferences and pay air fares from Europe? Well, CUNY has a research foundation which still has friends, including an alumnus who admires the Salzburg Seminar and thinks the CUNY graduate centre with its good food and air conditioning can do as well. So this is the first of a series of summer institutes on a variety of topics—the next one is on the New Deal 40 years on—and they have asked a German, a Swede, an Englishman and three Americans to assess the impact of mass higher education on the elitist universities of Western Europe.

Sitting in the DC10 sipping a free rum and coke I feel a fraud. How does a mere social historian come to be invited to assess British higher education? Well, I made the mistake of writing a book on the new universities, and it has brought me to more international conferences than ever English social history could. Foreigners take me for an "expert", and who am I to disabuse them? Not that I do the full round of the international jet world of higher education, where everyone knows everyone else and what they are going to say, but as an occasional intruder I have the advantage of being a moderately fresh face and perhaps of saying something new by accident.

After dinner the stewardesses distribute the headsets, but the film is impossible to see in the strong, slanting, stratospheric sunshine. Outside and below, the thunderheads crowd, and the weather worsens as we near New York. Two children, we hear later, are killed by lightning in Central Park. The air traffic, in Kennedy Airport's rush hour, also gets worse, and we circle for an hour and twenty minutes waiting our turn to land. At last we touch down. The immigration controller cannot find my name in the big book, and the customs officer finds I have no meat, fruit or dairy products, so they let me in, and out into the New York downpour. It is half past midnight by my watch but only 7.30 p.m. by east coast time, so I have a long yawning, jet-lag evening ahead of me. Frugally, I take a bus to Grand Central Station and a taxi to my hotel, only to find that I could have taken the airport limousine for the same price.

The hotel has never heard of me, unless I am Professor M. H. Perrikin from Berkeley. The "M.H." rings a bell: have they booked in a Professor H. J. Trow from Lancaster, England? Someone has swapped over both our initials and our addresses. Martin Trow, at the end of the house telephone, has a cold and jet lag—it is just as far from Berkeley as from Lancaster—so we arrange to meet at breakfast.

The hotel overlooks Central Park, the world's mugging centre, but it looks safe enough from sixteen floors up. My wife and I take our courage in both hands and walk around the late night shops and restaurants. No muggers in sight. So we go to bed, at 4.30 am British Summer Time.

Tuesday

After breakfast with friends old and new, we stroll 17 blocks — only 20 minutes — to the graduate centre on 42nd Street. The anteroom buzzes with international welcomings and recognitions. The conference starts 20 minutes late with a brilliant paper by Robert ("Ed") Brown of CUNY on the French universities' and modernization, 'or why the *Loi Faure* has not worked.

Burton Clark of Yale's paper on Italy dealt with another sort of elitist system, equally resistant to change. No Grandes Ecoles, but immensely long degree courses for a privileged middle class, dominated by "i baroni", elderly professors of immense power and influence, teaching very little, examining chiefly orally, and spending most of their time filling government posts and committees up to the level of the Cabinet.

Since the 1960s uncontrolled expansion has led to the breakdown of the old oligarchic system, endless student strikes against the appallingly overcrowded conditions, rebellion by the junior staff against the power and privileges of the "barons", and general criticism of the universities by the public, especially the trade unions.



Learning to live in the academic jet set.

Wednesday

Now it is the turn of the natives. Ulrich Teichler, a young sociologist at the Max Planck Institute in West Berlin, shows how the German universities have resisted change in their fundamental principles of freedom of teaching and science-based research.

The proportion of working-class students has risen minimally, from 4 per cent in 1957 to 12 per cent in 1973. Paradoxically, the group most wedded to elitism are the left-wing radicals. The new participation—one third professors, one third junior staff and one third students on governing bodies—has led to left-wing majorities in many universities, but not to democratization because the left wingers are as academically conservative and elitist as the rest.

The Swedish universities, according to Rune Persson of Lund University, are in retreat from mass higher education, or at least are having to seek it by a different route. Having experienced one of the fastest expansions in student numbers, from 15,000 in 1950 to 125,000 in 1970, they have now seen their annual intake of ordinary 18 to 20 year-olds cut by two thirds, from 25,000 in 1970 to perhaps 7,500 in 1975. They still have about 15,000 entrants a year, but half of these are mature students of 25-plus and with at least five years' employment experience. Mass tertiary education has proved to be incompatible with the survival of traditional elitist education, and many traditional students have "voted with their feet" rather than waste their time on it.

Martin Trow had been drafted to do the comparative summary of the conference but, en route to another "jetset" conference, had to give it on the penultimate afternoon. Could excellence survive anywhere under mass higher education, he asked? If so, what kind of structures should it inhabit? Was it feasible or desirable to turn Oxbridge or the Grandes Ecoles into postgraduate institutions? Britain was trying to approach mass higher education with elitist staff-student ratios of 8 : 1 or better. How could any country, let alone Britain, afford such luxury.

Thursday

My turn has come at last. My theme is somewhat different, less continental and theoretical, more British and pragmatic. Democratization to me means access to higher education for the underprivileged, notably the working class but not excluding women and immigrants. How far has expansion and the transition towards mass higher education, now delayed but not wholly abandoned, equalized opportunities for the disadvantaged? Everyone is acutely aware that the universities are much more accessible to working class children than most countries in the west, are predominantly middle class institutions: only 28 per cent of their students are from the working class, which constitutes 64 per cent of the occupied population.

But most observers assume that the polytechnics and the Open University are substantially more democratic. This is not the case. The figures for the polytechnics are poor and scattered, but Pratt and Burgess show them to have a majority of middle class students and to be becoming more middle class daily. The Open University, despite its open admissions policy, has only a derisory 7.6 per cent of manual class students. What is to be done, in the face of social pressures which give every advantage to the middle class child and every disadvantage to the working class? One solution which has not been tried is to tap the enormous reservoir of working class ability in the part time students, who outnumber the full-timers by 3.8 million to under 600,000.

Why not concentrate some of the resources currently devoted to turning the polytechnics into yet more middle class institutions on to encouraging the part-timers to become full-timers, at least for the later part of their education? Why not give them grants, or fees, books and fares, provide a modular course credit system which will entitle them to remission of part of the university and polytechnic degree courses, and guarantee them support as and when they are ready to transfer to full-time study? Britain is already at the level of part-time mass higher education. We could achieve both equality and equality of opportunity, and perhaps solve some of our economic problems, by capitalizing on our part-timers.

The conference rapporteur, Martin Trow of CUNY, is pessimistic about the prospects for higher education in the United States. Look at what is happening in the high schools: drugs and violence. What can we do with such students when they reach the university? His colleague, Henry Wasser, the conference organizer, is more optimistic. Catering for excellence and equality in the current political, social and economic climate is going to be tough, but it is a challenge worth meeting. What else is there to do?

Friday

We take the train to New Haven to see our old friend and eminent historian Jack Hexter. There he is, as full of fun, wit and scholarship as ever. What an antidote to pessimism! In spite of everything, excellence, like murder, will out. It's a good thought to come home with.

Harold Perkin

The author is professor of social history at Lancaster University.

A status way to avoid a clobbering



IVOR CREWE

This column is being written less than 24 hours after the sudden yet predictable announcement of the 10 per cent "voluntary" pay policy, and until the White Paper appears it is unclear how the current Association of University Teachers' claim will be affected. At best the 23 per cent arbitration award will be honoured and the cost of living supplement will simply be reduced from 25 per cent to 10 per cent (in which case all credit to the AUT negotiators for quite dividing the pay claim into two bits). But a mere 10 per cent is just as likely. There are other imponderables such as the flexibility of the "special case" clauses and the Government's strength of resolve. But the best guess must be that the policy will brook few exceptions and will be stubbornly applied, if only because all other alternatives have failed or are even worse.

It is tempting to predict dire academic consequences in terms of a massive brain drain to foreign universities or other employment at home. In fact this will probably not happen, if only because the financial position of universities in North America is little better, and the Commonwealth no longer needs or wants to import its intelligentsia. There may be some seepage to other jobs at home, but most of the suitable alternative employment is in the public sector which will be hit equally hard by the freeze. And despite much bravado in the common rooms and millionaire bars I'll

The real impact will be less dramatic, but just as serious. University life will change for the worse in two ways. There will, first, be a scramble for external examining, Open University tutoring, consultancy work, journalism, extramural lecturing and other paid second jobs. This will please the Treasury and its outposts in the DES but will inevitably be at the expense of research, teaching preparation, and contributions to the intellectual communities painfully built up in the more fortunate departments.

Secondly, personal relationships within the university will deteriorate. Relative deprivation is not conducive to rationality or civility and since dons are not saints, we can expect the resentments and frustrations of low pay and blocked promotion to be channelled into personal jealousies and conspiracy fantasies. Heads of department, beware!

What should the AUT do? Its immediate priority, out of regard for both basic justice and its future recruitment, must be to secure the best deal possible for the lowest paid lecturers. The 10 per cent rise should be regarded as a lump sum to be then redistributed heavily in favour of junior staff, and the minimum salary for those aged 26 should be raised at least one rung.

Next, the AUT should launch a campaign to improve the ratio of senior to junior posts (about 3:8 in Britain, about 6:4 in North America). The official view of the lecturership as the "career grade" bears no relationship to the aspirations or expectations of the vast majority of young university teachers, and is relatively lower down the income pyramid than the career grades in other public sector professions. The only plausible explanation ever offered to me for this anomaly is that the senior civil servants and university teachers are to be well and truly clobbered. We have incurred the double penalty of an unusually strict application of the social contract this spring, followed by a wages freeze caused by the failure to apply the social contract equally strictly elsewhere. We have become a special case.

Last non-academic readers remain sceptical, consider the position of lecturers in the lower half of the salary scale. A lecturer aged 30, with six year's teaching experience, a PhD, and a book or its equivalent of published research currently earns £2,931, which is a good £1,000 below what he or she could earn in industry, the civil service or local government. It is also below that of polytechnic lecturers, as is well known, and of school teachers holding degrees—which is less well known. Owning a house, at least in London and the south east, has become impossible, and for those whose first appointment began late, with young children and thus a non-earning wife, the position is intolerable. At the same time the end of university growth after rapid expansion has filled senior posts with young immovable incumbents, cut off the flow of senior vacancies, and thus made promotion prospects (and leaps up the lecturer scale) as poor as at any time since the war.

It is tempting to predict dire academic consequences in terms of a massive brain drain to foreign universities or other employment at home. In fact this will probably not happen, if only because the financial position of universities in North America is little better, and the Commonwealth no longer needs or wants to import its intelligentsia. There may be some seepage to other jobs at home, but most of the suitable alternative employment is in the public sector which will be hit equally hard by the freeze. And despite much bravado in the common rooms and millionaire bars I'll think in terms of the rather different Oxford and Cambridge lecturerships.

Thirdly, the AUT should seriously consider the abolition of the lectureship grade as presently constituted. Had a skilled practitioner of psychological warfare been asked to devise a scheme guaranteed to demoralize the profession and to discourage work, he could not have done better than the seventeen rung entry level scale. Its replacement by a system of three grades (let us call them assistant lecturer, lecturer, and senior lecturer, retitling the present senior lecturer grade assistant professor) in which the second was awarded in conjunction with tenure and the third started roughly where the efficiency bar is now, would provide rewards for merit among younger lecturers much earlier in their careers than is possible at present. At the same time, if the new styled senior lectureship became much less automatic than passing the efficiency bar, it is practised, the "pool of mediocrity" recruited in the mid-late 1960s would find their careers blocked early enough to move to more suitable jobs elsewhere.

This scheme would also give proper due to the importance of status in the university teaching profession, for public recognition of worthiness. As in all the traditional professions, individual advance depends upon the opinions of one's colleagues and the division of university teaching into more grades is simply formal recognition of the fact. Since the use of titles and status is an unusually cheap way of providing work incentives and career satisfaction it should recommend itself to Whitehall, where its practice is not exactly unknown.

Longer term strategies for the AUT depend on a proper analysis of the collective clout of university teachers. Any realistic appraisal is pointed out, universities face a cross-party coalition of prejudice: the right dislike us for being pink, the left for being middle class (both are correct). We have far too few votes to frighten MPs, even in the marginal seats where so many universities happen to be. Unlike the teachers we have no sponsored MPs (memo to AUT: why not?) and we do too little to bully the twenty-odd non-university teachers in the House of Commons.

It goes without saying that we have no stranglehold over the economy or the country's welfare. We do not provide the Government with crucial information or carry out minor administration on its behalf (like the farmers and doctors). There will no doubt be stirring calls for militancy in the next few months, even for a strike, but the outcome would only be defeat for us, some financial savings to the Government, and harm to students. We may have much to be militant about, but we have nothing to be militant with, and if some of us do not know it yet, the Government does.

The truth is that our pay and conditions essentially depend upon the legitimacy of the academic enterprise in the eyes of the Government. We stand or fall by the deference we can induce in the Cabinet and civil service, and long-term strategies need to treat this as a first principle. This means, on the one hand, that the profession must end its traditional modesty, be more publicity conscious and trumpet its research achievements and international standing. But it also means that we have to be less easygoing on the low and non-productive among us (which the threefold division of the lectureship grade would do) as well as on students and staff whose abuse of academic freedoms, especially rights of free speech, has done as much to strip the universities of the only weapon it has, or ever will have:

Frances Gibb reports a conference on access to continuing education

Open the gates and help the grown-ups through



Take adult education to the shop floor.

Lack of information, of entry qualifications and of secondary school education were three of the major barriers preventing adults from taking up chances to study, a national conference on "access to continuing education", heard last week.

A key need identified by several groups was for national and local counselling, guidance and information about continuing education for adults. Many adults did not come forward because they did not know what existed.

The media had an important role to play here. Broadcasting organizations, it was recommended, should employ extensive "cross-trailing" from general interest programmes to educational programmes. Booklists should be offered after certain programmes. A special management appointment should be made to oversee these developments.

The three-day conference in Oxford was organized by a committee containing representatives of the Open University, the national adult education bodies, the broadcasting authorities, the TUC and the educational press. Its chairman was Mr Paul Fordham, director of extra mural studies at Southampton University.

The 150 participants divided into working groups and discussed aspects of access to continuing education and its constraints: formal and non-formal qualifications, existing provision and barriers to it, resource management and cooperation, other education as a preparation to adult education, the media, "non-participants" and curriculum development and methodology.

It was emphasized that education was often a barrier in itself, when packaged and titled "education", and it was suggested that much more imaginative use could be made of general interest radio and television programmes.

Mr Brian Groombridge, head of educational programme series for the Independent Broadcasting Authority, said: "In Great Britain, the quality of drama and documentary is such that it might be used towards formal qualifications, together with properly prepared back-up print material, distributed in outlets such as *Family Circle*".

It was also recommended that educational broadcasters should be enabled to present a series of programmes at peak viewing time on either network, which would allow adult education programmes the benefit of a large audience.

Barriers preventing the media from making full use of their role in education were identified, for broadcasting, as limited air time (increased radio capacity had brought improvements in access to adult education, it was pointed out), and copyright restrictions on the use of broadcast material "off air".

For printed material, barriers included poor distribution of books and the continuation of retail price maintenance in the book trade, especially for paperbacks. More imaginative discounts could be made.

Mr Donald Grattan, controller of educational broadcasting at the BBC, suggested an open network which would provide common ground in broadcasting as the OU had done in higher education. It would give more opportunities for adult education, training and retraining, projects of specialized interest, and for the understanding of the nature and effects of broadcasting and the media themselves.

A second major barrier to access that emerged was that many formal qualifications required for entry to many courses were often imposed by the professions. An inquiry into what was considered a trend towards higher entry qualifications in the trades and professions should be set up, it was recommended. It was felt trades and professions used qualifications as a way of rationing the availability of skills and enhancing their own status.

Mr Fred Flower, principal of Kingsway/Princeton College of Further Education in London, suggested no one should be barred from any job because of a lack of previous educational achievements, but should be judged only on the basis of professional competence, and that no lower level educational qualifications should be permitted as entry requirements for a higher course. Much more value should be placed on non-formal qualifications and non-formal learning, such as community development projects, it was suggested.

The position of non-formal qualifications in Sweden was outlined by Mr Olof Palme, prime minister, in a videotaped interview with Dr A. H. Halsey, director of social and administrative studies at the University of Oxford.

Mr Palme explained that in Sweden 25-year-olds with four years of vocational experience are allowed to go to university. This had proved successful and university entrance requirements were being changed again to give more emphasis to practical experience, he said.

Where formal qualifications were used, they should be used more flexibly. The Russell report's recommendations on transferability of credits were supported, and a modular system agreed to be the best way of building up formal qualifications.

Qualifications were seen as part of the whole barrier to continuing education put up by school. Attitudes to education in later life were very much determined by earlier experiences, it was felt. "Non-participants", one group agreed, "have in fact rejected not so much the idea of education and its continuing opportunities but rather the purposes which in their own view adult and further education serve, and the forms it takes."

They had to be reached not through the normal educational channels which had in their eyes been discredited, but through community interests.

Mr Fordham emphasized when opening the conference that access to continuing education had to be seen in the context of wider social policies.

Dr Halsey showed in a videotaped interview with some former "non-participants" that their motives for coming forward had not been "for a learning experience" but rather for "community involvement".

It was suggested that adult education should be taken to the shop floors, to working men's clubs, to pubs, churches and the home, and should not be confined to the conventional institutions.

A salutary note on this concern for the "non-participants" was added by Mr Stuart Maclure, editor of *The Times Educational Supplement* when he warned against too much zeal in helping the disadvantaged at the expense of others.

"We need the real humdrum services of adult education for people who in fact want it, and that means humdrum professionalism; we'll have to give up thinking of professionalism as a dirty word."

More participation by adults in what was presently offered was suggested as another way of breaking down barriers. Professor Walter James, dean of educational studies at the OU, criticized the BBC and OU in this respect. "The partnership between them is one which is very limiting. It does admit the consumers."

The adult literacy campaign was equally at fault in not teaching students to learn how to read words they would want to use.

This concern with consumer demands formed part of a general debate which ran through the conference on the relation between what consumers wanted, and what society needed.

Dr Gösta Rehn, head of the Swedish Institute of Social Research at the Organization for Economic Cooperation and Development, argued that the education system should be regarded as part of the labour market. "The population of schools and universities is part of the labour market. Students react to a situation in the market, and decide—although sometimes perversely—whether to go in or stay out of education according to the situation in that market."

He urged the closer coordination of employment and education policies. If education opportunities were to be expanded, so should training opportunities. Adult education was an extension of the school system and the labour market.

Lord Crowther Hunt, Minister of State for higher education, took this point further in a videotaped interview with Dr Halsey, arguing the case for manpower planning. "We must find out in the longer term what the nation needs in the supply of highly qualified manpower, the sorts of manpower it needs, and try to direct and influence people to go in those directions."

He argued for the production of more scientists and technologists.

Choices had to be made between different sectors because of economic constraints, he said. The 16-19 age group was for him a more important area than continuing education.

As summed up by one participant, the real problem lay not between students' demands and society's needs, but rather between what students wanted and what adult educationists were giving them.

A full report of the conference is to be published by the steering committee later this year.

Science research policy moves into politics



Professor Ralf Dahrendorf

Two recent events appear to indicate that the study of national allocation of resources for scientific research—the field broadly referred to as science policy—may be moving from an area of essentially academic interest to one directly linked to the mechanisms of political decision-making.

The first was the recent announcement that the Social Science Research Council is to set up a committee under the chairmanship of Professor Ralf Dahrendorf, director of the London School of Economics, to look at the organization and funding of science policy research in Britain.

The second was last week's meeting of the ministers of science of member countries of the Organisation for Economic Cooperation and Development (OECD) in Paris, at which the growing political importance of such policy instruments was openly acknowledged.

Both Professor Dahrendorf and the ministers of science set this importance in the context of medium and long-term planning, as an attempt to understand the complex implications of proposed political decisions.

Professor Dahrendorf's approach, however, has been essentially pragmatic—and, being so, will no doubt appeal to those members of the science sub-committee of the House of Commons Select Committee on Science and Technology who are concerned at the apparent gap between the allocation of research funds for science and nationally determined social policy.

The approach presented by the ministers of science, on the other hand, can fairly be said, at least in its bald communiqué form, to be one step removed from everyday reality.

This is the fact that the head of the science policy division in the OECD secretariat, M Jean-Jacques Salomon, is not only a Frenchman, but also a philosophy graduate who holds a teaching post at the College de France, and whose recently published book *Science and Politics* contains as much on epistemology as it does on economics.

M Salomon himself, however, is keen to stress that he sees science as essentially an instrument of society; hence both its insoluble connection with politics and the political importance of science policy.

There seems a general acceptance that the widening gap between knowledge and power, and technology, with the assumption that this would have a mechanistic impact on science and technology, is over", M Salomon says, pointing to the declining proportions of the gross national product being spent on research and development in the major OECD countries.

"Science has in some ways become less important, having to take its place alongside other social priorities, while it becomes less easy to allocate money for 'mobile' rather than clearly defined, targets.

"Science can no longer be justified on scientific grounds. Political administrators are more careful than they were about the allocation of research money, and almost all developed countries are concerned more with applied than with pure research."

This shift has been reflected inside the OECD where M Salomon's division has been moved from a direct association with education into the new directorate of science, technology and industry.

Similarly, a series of studies of the science policies of member states—who between them are estimated to account for 80 per cent of the money spent on research and development in the OECD countries—is now being followed by studies of the social science policies of these countries.

"I think that the social sciences may well take over from the natural sciences in importance, and there is clearly a need for greater coordination between the two", M Salomon says.

"In particular, the naïve positivistic approach to problem solving with inherited from scientists is being questioned, and nothing would be worse than to expect the same approach from the social sciences."

Given this situation, one echoed in Britain in the decision to set up a science policy committee within the Social Science, rather than the Science Research Council, what does he see as the future for science?

"I think it will be something more balanced, less motivated by the political dreams both of scientists, who think they are the most important people in society, and of politicians, who tend to think only in short-term considerations", says M Salomon.

"Science has lost its esteem, not only through criticisms of the way it has been used, but because society has lost its sense of value, and science is no longer the substitute that people thought it was 10 years ago.

"One implication of this is that those concerned with science policy are in a weaker position than they have been, illustrated for example, by President Nixon's abolition of the Office of Science and Technology."

Where there has been a revival in interest in science, it has so far been on the basis of the social sciences, as a direct response to the needs of OECD member countries.

"What is requested more and more is a type of broad policy research. This will be one of the most important problems of the future, involving as it does the training and integration of people into planning systems.

"I am thinking, for example, of the people with local or national administrative responsibility who are increasingly having to rely on the results of research, and for whom we can help to provide a framework of awareness within which they can make better decisions."

M Salomon says that in the past Britain has appeared to rely on a relatively informal planning process, but adds that this is no longer adequate to meet the demands of the contemporary situation.

"It is too easy for Britain to say that science is the prime responsibility of universities and technology the responsibility of industry, leaving an apparent vacuum between the two."

Whether this vacuum can be filled either by the council for medium and long-term planning proposed by Professor Dahrendorf, or by any other institutional rearrangements that may be suggested by the select committee as a result of its investigations into university research remains to be seen.

David Dickson

David Walker visits the University of the West Indies

British tradition faces up to a Third World critique

Until recently the only things that remained of the West Indies as a political federation were said to be copra, cricket, and the University of the West Indies.

The university is a strange administrative feat comprising three campuses with a single administration separated by a distance as great as that between London and Moscow. It is financed by 14 different governments and is the epitome of British academic tradition in a region eager to throw off the last remnants of colonialism.

Now the copra trading agreements have grown into a free trade area and the West Indian countries are exploring further avenues of common action. Paradoxically the UWI is now in danger from the forces of separatism and inter-island jealousy, that broke up political federation.

Awareness of the limitations of the British educational heritage has grown slowly along with doubts about the suitability of a sophisticated English-style university for the needs of the Third World.

Such a critique has come in recent years from younger academics and intellectuals in Trinidad and from established politicians in Jamaica and it raises more than parochial issues: is the university a vestiage of colonialism? how adaptable are universities in general to the changing demands of economy and society? The university is gradually and painfully attempting an answer.

At first glance the UWI is a traditional British university in an exotic setting; a kind of Reading surrounded by bougainvillea. Like Reading it is a former university college of London. University strong in agriculture with a central core of studies in general arts and sciences.

Teaching started in Jamaica in 1948 and the university grew more through political accommodation than academic planning into an institution with two other centres, in Trinidad and Barbados, after it was made independent by royal charter in 1962. Since then the direct British connexion in terms of support in finance and staff has declined although the bulk of the UWI's non West Indian lecturers and researchers are British.

Most of the buildings on campus at Mona in the suburbs of Kingston, Jamaica—acclaimed as one of the most physically impressive of all in the British Commonwealth—are from British Government grants. Finance for new additions like the management studies buildings is from Canada and for the creative arts building from the Gulbenkian foundation.

The Trinidad campus is dominated by the old Imperial College of Tropical Agriculture which now houses the administration. Its work has been absorbed in the faculty of agriculture, notwithstanding the criticism of some members of staff that only the British Empire could have organized such an institute testing fruits and plants that did not and could not grow in the West Indies and ignoring local flora.

Also at the St Augustine campus in Trinidad are the engineering building, built with Unesco and Ford Foundation money, and the colleges of arts and sciences with money issuing from a deal between the Trinidad Government and the Americans over an American military base at Chiaguaramas.

If the physical structure of UWI is international, the academic organization is staunchly British both in the administration and the length and scope of the degree courses. External examiners tend to be British although Americans and Africans are now more called upon.

There has been movement away from this pattern in some areas. Politicians in the Caribbean have hesitated for over a decade on establishing a local examinations council that would place validation of school examinations at O and A levels in the administrative hands of local governments rather than the London and Cambridge local examination boards.

Paradoxically both these boards and Cambridge in particular—which runs the bulk of examinations in schools in Trinidad, Barbados and the lesser islands—have pushed devolution hardest, training local teachers in marking, opening themselves to new syllabuses to take account of local history and culture. But the Caribbean Examinations Council, as it has emerged, is an additional educational expense for the various governments and is still fraught with political difficulties.

For example, the university authorities in Jamaica have been keen on schemes to open the university to both unqualified and O-level applicants, provided they pass university tests and show the right kind of motivation. Professor Leslie Robinson, pro-vice-chancellor in Jamaica, produced figures recently which showed that the real drop-out rate among O-level entrants was no less and sometimes a good deal less than among straight A-level candidates.

The difficulty is that the Trinidadians, who are the other major contributors to the university's budget, have invested much in secondary education and produce many more A-level students per head than the other territories and so have something of a vested interest in the traditional two A-level matriculation requirement.

The nub of the matter was put by Mr Hugh Gibson, secretary of the St. Augustine campus. While UWI had toyed with the American model of academic organization, instituting "associate professors" and so on, the university still ran basically on the British model with modifications and there had been no real move away from it.

Paradoxically, the most vital sections of the university—the departments of education and extra mural work, which engage in serving the local community in the most direct way—conform very closely to their English counterparts. The outposts of the extra mural departments in the smaller islands are like nothing so much as the Oxford system of tutors 20 years ago, even allowing for the influence of the Open University. The relationship of the school of education in Jamaica and the local teachers' colleges is a variation on a theme first stated by the McNair Report in 1944.

All this in former colonial territories with a very close link with metropolitan education would be unremarkable since particular forms of academic organization might serve the newly independent countries as well. What is important, according to the younger generation of social scientists and students of literature now reaching to the university, is that the British heritage has not been examined and evaluated.

Particularly in Trinidad among a group of dissident intellectuals in an organization called Tapia House, a new questioning of the British models has arisen. It is partly a matter of generations. The younger academics are increasingly trained and educated up to postgraduate level at the UWI; their teachers and the older academics are by and large products of Newcastle and Durham, London and Oxbridge if not of Duke and Cornell, McMaster and Toronto.

Tapia House—the name comes from a traditional palm-thatched building in Trinidad—is singled out because its members have launched in their writings and newspaper a critique of the university as inappropriate for a developing society, because of its place in the educational system, its values and the kind of intellectual cast of mind it cultivates.

Mr Lloyd Best, of the department of economics, one of the leading lights of the group, said the university supplied those educated in the ways of imperial civilization and robbed them of the real skills for dealing with their own society.

Among a group of lecturers in the English and modern foreign language departments—the UWI still teaches Latin—this kind of consideration has led them to build up courses in Caribbean literature and culture. The UWI has no formal degree in West Indian studies but through a judicious choice of optional papers a student could cover the history and language of his own society, according to Dr Gordon Rohlehr, head of the English department at St Augustine.

While the movement to introduce more elements of local dialect and letters into "English" degrees is quite general and is reflected among staff in Jamaica, some Trinidadians like Mr Lloyd King, of the department of French and Spanish, have begun to think of organizing post secondary school education in a radically different way, for instance in a series of institutes with specific charters and functions.

There is a path, he said, between the "deschooling" simplicities of Illich and the metropolitan models bequeathed to a colonial society by Britain or the United States.

V. S. Naipaul, the Trinidadian novelist, once said in a phrase that still rankles with many West Indians that the British Caribbean was the Third World's Third World. The gist of what he meant in education could be the juxtaposition of an underdeveloped system of secondary schooling, little further education and a sophisticated university meshing together like a set of unlubricated gears.

What happens to the UWI and the rather conservative model of academic organization it embodies will be of general interest and perhaps will show that in the former colonial world at least, for some academics, and politicians, the university implied in the word university—has broken down.



The creative arts centre, University of the West Indies.



Home made holocausts show conflict's roots

The nuclear holocaust came shortly after 11 o'clock in the morning on a bright summer Sunday, and by noon over 500 million people were dead. It had come after a revolution in Africa, a conventional invasion by the United States (for reasons which nobody at the time clearly understood), a nuclear response by China, and a nuclear response by the United States. Both countries lost over half their populations, and about a third of their resources. The USSR, in spite of (or because of?) her history of walking out of United Nations summit conferences, survived intact.

The scenario was fortunately limited to an ICL computer and 60 players of a simulation game at Lancaster University, and the student of politics who was the Russian Foreign Minister was able to eat an ice cream cone and explain what had happened. "We have just become the biggest nuclear power in the world", he said. "Some of us want world domination and some of us want friendly coexistence. I think the world dominion people will win."

At a nearby table, the pretty bare-midriffed philosophy student who had been the old head of Africa explained that she was now the new head of Africa. "Public opinion had dropped very low. We had not been spending any money on equality. So this was a revolution. But I much prefer being the new People's Democratic Republic of Africa. Our position is much clearer now."

As for the President of the United States, he said that he thought declaring war was a fine thing to do. He was a young computer executive just out of university, self-confessedly very right-wing, and had unashamedly bagged the job of being President because it was the most important. By the end of the first day his Cabinet was entirely disaffected with his decisions, and at the end of the game on the second day he had been impeached and assassinated.

The game had been organized by Dr Paul Smoker, reader in Peace and Conflict Studies at the University of Lancaster. He was built on his ten years of research into the subject, and the computer had been fed with data ranging from the likely returns of research and development in theories of revolution. The players, who included businessmen, teachers, lecturers and students, were in effect giving the game a dry run before being put into some kind of kit form for universities, and any other interested bodies with a computer handy.

There were nine nations, three multinational companies, the world's press, and a United Nations secretary general. Nations had their Cabinets and businesses their boardrooms, and even those who aimed for cooperative decision-making eventually had to end up with specialized functions. Every year the players had to make their decisions, the computer analysed their effects, and provided data for the next year's decisions. The game got through from 1984 until about 1989, and though Dr Smoker said he thought the outcome had been highly unlikely, he said he thought it had been educational. "I think some people will have realized that international decision-making is about bureaucratic decision-making processes", he said.

When it was over, there was a postmortem. It had been the joint executive president of the American-based multinational GM (General Motors?). It confessed that we had started the game knowing we were probably the most unpopular of all, and that our natural resources were about to dry up and our markets collapse. Our aim was simply to try to come to terms with the flood of paperwork that the computer sent us, and to stay in the game as long as possible. Yet, somehow, we ended up the most powerful and meanest corporation of them all.

The world press (run by the university information officer's assistant and the information officer, in that order) confessed that they had been overwhelmed by the flow of events.

India said that she had got through the first few years without anybody dying of starvation, thanks to generous sums of international aid, abolition of her nuclear programme, and tripling of birth control expenditure. South America, however, said that they had made the mistake of not spending enough on basic resources, and millions had died. The United Nations secretary general said his overwhelming aim had been to save lives and he had not done very well, and the nuclear combatants said that the war had solved their population problems: "It didn't destroy any of our industry, but it killed off a third of our population", said the head of Africa. "It was a great help to us."

But what I found disturbing was that we at GM had really been the unwitting cause of the war. It appears the President of the United States had assumed that revolution in Africa would have cut us off from vital resources and crippled us (which it wouldn't have done anyway). Nobody bothered to ask us. So while some clown with a bit too much power was starting a holocaust, we were too busy balancing our books to care. I expect the real end will come like that.

Tim Albert

Richard Hooper, director of the National Development Programme in Computer Assisted Learning, reviews its first two years' work

'Computers in education are here to stay'

A few months ago, I visited the physics department of a large civic university. My host, on being asked how many computers there were in the department, thought for a moment and said he guessed between five and seven.

"Oh, and then there is that new chap up the corridor who's got four", he added. This incident, in a small way, sums up my feelings at the half-way mark of the National Development Programme in Computer Assisted Learning.

The story of the first two years of this five-year, £2m programme is told in my director's report *Two Years On.**

The report, in its final chapter, contains the assertion: "Computers in education are here to stay. Given the backing of those who see computing as a legitimate part of the modern curriculum (computer education, computer science), and of those whose subject disciplines are becoming increasingly indistinguishable from computing, and given the powerful interests of computer manufacturers who see education as a legitimate and largely untapped market, the roles and influence of computers in education are likely to spread steadily".

I began the programme with no such feelings of "inevitability". In fact the opposite. An official from the Organization for Economic Cooperation and Development who I was with shortly after learning of my appointment as director, said: "You are on a hiding to nothing."

He thought, as I did at the time, that a national programme in computer assisted learning was exclusively to do with computerized programmed learning—the computer as teaching machine beloved of the followers of B. F. Skinner and his behaviour-shaped pigeons.

It was only after the programme began, in January, 1973, and after visits to, for example, the nuclear engineers at Queen Mary College, the physicists at the University of Surrey, the medical teachers at Glasgow University, that I came to realize that computer assisted learning (CAL) was a far broader notion, and that the natural remit of the programme was much wider than programmed learning.

In fact, most of the people involved in this area in this country (not all) were, and are, not interested in developing the computer as a teaching machine. They see it more as an academic tool, as a learning resource, as a "laboratory" where the student can actively be involved in modelling, simulation and problem-solving.

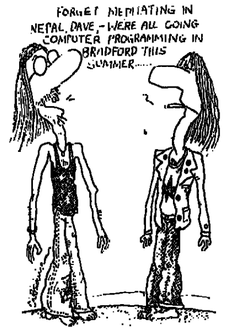
The analogy here is much more with the use of the traditional science laboratory, where there are demonstrators and teaching staff in attendance, than with the self-instructional, self-contained programmed text.

The computer in these "laboratory" applications is not entering courses because of a desire to improve learning in an educational technology sense, but because the subject matter increasingly demands it. This is most obviously true of the numerically based discipline (for example, mathematics, physics and engineering), but is increasingly true of the softer sciences (geography, economics, business studies) and the humanities (linguistics and social history).

The Social Science Research Council, for example, has just informed heads of university history departments about developments in quantitative methods and computer usage in history.

The national programme has projects which use the computer in a variety of ways. Of the nine large projects in higher and further education under way at the end of 1974 (smaller numbers of projects are also under way in schools, military and industrial training), five were using the computer in its "laboratory" role.

Two, both based at Leeds University, were using the computer as a mixture of laboratory and teaching machine, and one, based at the New



University of Ulster in Coleraine, Northern Ireland, was using the computer to manage (but not provide) individual learning in teacher education.

In all, by the end of 1974, £375,000 out of a budget of £2.35m (£2m at 1972 prices) had been spent, and 17 projects were in progress. The nine higher education projects involved committed sums of £368,000. The higher education projects are likely to have spent around £1m by the end of the programme.

The report on the programme's first two years identifies some novel features by comparison with the familiar research grant-giving policies in higher education. For example, no projects are funded for more than one or two years in the first instance, and further funds are only awarded after a successful "midterm" evaluation.

Another difference is the active role of directorate staff in the designing and selection of projects. This is a major break with the grant-giving tradition, where central research council staff have a "reactive" rather than assertive role, and where so much of the project vetting is done on the basis of the actual written proposal.

Yet it is often felt that good proposal writers are not necessarily good project directors, and that what is written may differ markedly (some would say, fraudulently) from either what is in operation, or what is intended.

Other novel features of the programme include the emphasis on inter-institutional cooperation rather than single-institution funding, on the need for effective project management, and on independent evaluation.

Good project management is actively encouraged by the directorate. At an early stage, this caused problems with some of the university projects who felt it constituted unwarranted intrusion. These problems have largely been resolved, but some projects still feel that the administrative demands of the programme's project control structure remain excessive.

Independent evaluation, coming from agencies outside the power structure of both projects and the programme directorate, was also seen to be threatening by some.

Dr Peter Ayscough, director of the large chemistry project, states in the report that, in his opinion, the "evaluators have moved tactfully and firmly through the minefields of academic temperaments".

So where are we now? The higher education projects are busy preparing for the day, not far away, when the national programme cash register is rung up for the last time.

At places like Glasgow, Leeds and Surrey Universities, and in parts of the University of London, plans for a continuing CAL service are underway. CAL is busily being incorporated into, for example, quinquennial submissions and into proposals for the Computer Board.

In many places, a good base of local support from colleagues is being achieved. If this sounds like over-confidence, perhaps it is. But then the programme has been fortunate to find across the country groups of committed, enthusiastic, politically-adept people.

Also this confidence has to do with the inevitability point I started on. Computing is not like other new educational technologies—television or audiovisual aids. Television is not really an academically respectable technology, computing is.

The analogy should be with that old (and academically respectable) medium: print. Print was invented and developed in close collaboration with educational institutions. The second book off the Gutenberg press was the Donat grammar.

Computers were invented in universities to solve complex academic problems (admittedly under the shadow of military research needs); just as education today could not be imagined without print, so are some parts of some academic disciplines becoming indistinguishably linked to computing.

The eleven or so computers in the university physics department were of course used 99 per cent for research and only 1 per cent for teaching undergraduates.

But we all know the law of academic percolation. What is a research application this year is the undergraduate curriculum next year, and probably in the A-level syllabus a year or two later.

**Two Years On—The National Development Programme in Computer Assisted Learning.* Report of the director. Published by the Council for Educational Technology for the United Kingdom and distributed on its behalf by Councils and Education Press Ltd., 10 Queen Anne Street, London W1M 9LD, price £1.25 net.

Journalists and academics: the need for cooperation and understanding

Tom Hopkinson discusses the case for setting up a research centre for the study of problems of communication

It is generally accepted that there is a conflict of ideas and ideals between the academic and journalistic worlds. On the whole, the aim of the academic world is to say nothing until you can achieve certainty, or something approaching certainty, to avoid publication; to avoid speaking out until you know that what you are saying is right, and can be proved right. The aim is certainty; the quarry truth.

The journalistic world necessarily operates under different rules. Its aim is to achieve the quickest possible disclosure of whatever information is available. People demand to know about a situation as it is now. They will not wait for developments to take place and certainty to be arrived at.

The mass media, therefore, are constantly forced into giving judgments on situations which they can still further and deeper develop. For those working in the mass media, in situations where the truth is often hard to come by, the conflict between the wish to achieve accuracy and the need to fill columns immediately can be very great.

People, however, have the right to know the facts as they are and to form their own judgments on the evidence available. And this is a guiding principle of the media. It was partly the shilly-shallying of certain journalist-academics (or academic-journalists) in the years before the war, which delayed knowledge in Britain of the dangerous rise of the Nazi and Fascist regimes.

At a critical period, *The Times*, for instance, refused to publish criticism of the Nazi regime on the ground that there was some doubt about the facts—for instance on concentration camps. The paper preferred to wait for certainty, and "waiting for certainty" was disastrous in such a situation.

If the aim of the academic is certainty and his quarry truth, the aim of the journalist is disclosure and his quarry enlightenment. Consequently the aims and ideals of both sides may be valid, yet involve conflict and be hard to reconcile.

If the demand for immediate information can lead to absurdities, the conflict between the two attitudes can also lead to mutual hostility. We are all familiar with, on the one hand, the "ivory tower" accusation, and the "gutter press" accusation on the other.

The course which has been established at University College, Cardiff, during the past five years is just one example of the ways in which the mass media and centres of higher education can work together for the benefit of both. And indeed the problems of both are sufficiently pressing to demand cooperation.

It is probably not too much to say that unless these financial problems can be resolved, newspapers as we know them today, could become extinct by the end of this century.

Not only does each copy of a newspaper have a life as short as a gnat's, it is also perhaps the only product sold under the illusion that half the cost of its production, the difference having to be made up by advertising. But advertising depends, of course, on national prosperity.

At a recent Franco-British colloquy the point was taken a stage further. If information is to be a marketable commodity, ought it to be a commodity at all? Or should it be taken out of the field of merchandise and made as free as air and water ought to be? And if so, how? But then, on the other hand, we expect information to make profits, then how much profit? And for whom?

Despite the urgency of the financial problem, much the larger part of the participants' time in this colloquy was taken up with quite different issues, those issues which might be called philosophical rather than financial.

These are also problems which, in different form affect the academic world and indeed every part of the modern world—just as much as they affect the media.

The first problem was stated as: "The right of communication is a fundamental of our society; this right has now to be democratized".

"Democratized" is not a word I enjoy using but it is the word which was used, and I have not been able to find an alternative. What does this sentence mean?

"Communication", the free flow of information, is vital to free government. People must know in order to form judgments and to act. Aristotle said of bourgeoisie—if memory serves—that it is not only a virtue in itself, but the condition of every other virtue.

Similarly, the free flow of information is the condition of every kind of free activity—not only a free press and a free industry, but of a free judiciary, free politics and a free academic life. In the past, those who wish to have some control over the flow of information—largely political—governments, rulers, refusing to allow information to be made available, usually on grounds of "national security". Today, we are being forced with varieties of a different nature. One of these, indeed, is the financial barrier of which we have already spoken.

There is also the question of how to ensure that communicators are really in touch with those to whom they are trying to communicate—a question just as important to the academic world as it is to journalism.

Journalists have to ask: whether we, who deride "ivory towers", actually live in one ourselves? A picture could be painted of editors, for instance, becoming ever more technically competent, coming to know more and more about how to get information rapidly into the paper, printed and distributed, but less and less about what their readers are really saying and thinking.

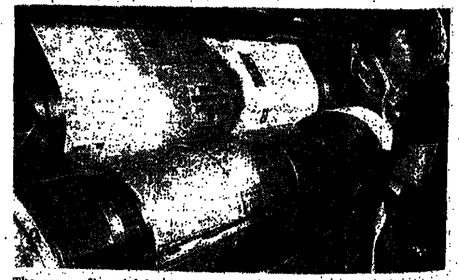
That this is no fanciful picture is made plain by the way circulations of some national and provincial papers are visibly melting away, while others in similar-seeming circumstances hold their ground.

The point I have been trying to make is that problems of communication are not solely the concern of journalists. We are all in the communications business, and we are all—politicians, artists, educators, academics—hamstrung in varying degrees by our failure to communicate with full effectiveness.

I am convinced that solution to the problems of communication depends, in particular on close cooperation between the academic and journalistic worlds, each having certain skills and knowledge which require to be brought together in a fusion of talents and a blending of methods.

On the one hand we need scientifically-directed research; on the other we need the capacity to express the results of such research simply and readably, and to relate them to immediate targets or intentions.

Such cooperation is impossible without mutual appreciation and understanding, which becomes needlessly difficult when attitudes of superiority/inferiority, with resulting distrust and hostility, are introduced. Provided we overcome these problems with commonsense and goodwill, I suggest that a practical step should now be taken.



The press: financial hazards abroad

A research centre should be set up—in the first place no more than a nucleus—to enquire into problems of communication. These could include specific problems of the mass media, and of communication in the academic field, both sets of problems having implications for our whole present-day world.

This centre, I suggest, should be established in Cardiff in connection with the Centre for Journalism Studies. It should be set up with European rather than solely British backing. It should have a small permanent staff, having extended contacts with the media and the academic world; and the first subject for inquiry should be mutually agreed between both.

If it becomes possible to set up a senior degree—on the lines perhaps of an MA in journalism studies—this could provide a handful of established journalists on sabbatical leave, who might cooperate in the research while working for their degrees.

Since the problems would inevitably have legal, economic, social, political and industrial aspects, the centre would need to attract cooperation from a wide range of departments, but the problems these departments would be asked to cooperate in solving would have direct application to their own activities. We are all involved in communication.

An edited version of Mr Hopkinson's valedictory lecture as director of the Centre for Journalism Studies at University College, Cardiff.

What's science to history, or history to science?

Why should ordinary, mainstream, historians study the history of science and technology? What is science to history? Such a question seems stupid. Who could possibly doubt the enormous role of science in intellectual history, political and social theory, in philosophical speculation, in the decline of religion, in the transformation of life via technology? Nobody. But you would not think so judging by the syllabuses of mainstream history in most British universities. At a recent meeting of historians of science from many universities it was clear that the subject has a far more precarious footing among undergraduates in history and the social sciences than among natural science students.

It is true that renaissance and 17th century history are now inconceivable without their scientific revolutions, just as economic history is inconceivable without the technological revolution.

However, all history undergraduates do not take economic history. When the mainstream history syllabus reaches the 19th and 20th centuries science slips away from it almost completely, even though this is the period when science began to have a profound impact on everyday life. I would guess that most history students who study British history from 1800 to 1939 graduate without ever having heard in their courses about Lyell, Faraday, Clerk-Maxwell, Kelvin, Rutherford or even possibly Darwin. This omission of one of the dominant forces of change in these centuries is intellectual impoverishment for the students and historical impoverishment for the profession.

The historians of science must themselves bear some responsibility for this state of affairs. Some of them have said that after 1800 science becomes too difficult, too mathematical, for non-scientists to understand, and that in future nobody will be able to become a historian of science without a science degree. Exeunt historians trained in the humanities and social sciences.

Such suggestions are dangerous and should not be offered as alibis to reluctant historians, for science can be studied in many areas, from many aspects and from different levels. Clearly non-mathematicians cannot tread some of them, but they will find others perfectly accessible. It is certainly absurd to divide science into pre-1800 science which historians can tackle and post-1800 which they must avoid. Is Newton inherently more comprehensible than his successors? Faraday after all had no formal education, worked as a messenger boy, and used no mathematics above simple arithmetic. "The sophistication of modern physics conceals the deep and often expressed conviction of Rutherford and Niels Bohr that nature is essentially simple". Both felt that understanding could not be wrapped up in obscurity or be expressed only in highly technical jargon", as Mark Oliphant said in his *Rutherford*.

Of course it is difficult for a non-scientist to learn enough science but historians learn to handle all kinds of other subtle concepts and theories. Moreover, archeology, once far out at one end of the humanities spectrum, is now dependent on the use of radioactive isotopes and other techniques of physics, yet students of ancient civilizations master them without complaint. Many historians use computers. My own scientific education and scientific proclivity were minimal but I find it easier to understand how a nuclear reactor works than to understand the finer points of theology or even superannuation schemes, and the scientists and engineers appear satisfied with my history. This experience enables me to exhort history students or historians: "Be not afraid of science."

Scientific ideas are obviously an essential part of intellectual history, which does not at present figure largely in undergraduate mainstream history courses. But science is also an essential part of the studies that form the very backbone of these courses—an essential part, that is, of politics. I gladly ally myself with the defenders of the study of politics, which examines how men govern themselves, how they distribute power and resources within a society and between societies, how they choose between different objectives and between different means to any single objective. Unfortunately political history is too often seen only in terms of institutions, diplomacy, laws, parties, overt happenings; the rise and fall of administrations. It should be seen much more in terms of the activities and the changes within society which lie beneath the formal crust. We should not take subjects *out* of political history—but put them *four*square in. Education, economic policy and health are highly political questions. So are science and technology.

No self-respecting 17th century historian would now divorce the scientific revolution from political thought and activity. Yet 19th and 20th century mainstream historians omit science almost completely from their politics.

Science is a quite indispensable part of 19th century history and equally, if not more so, of 20th century history. Isaiah Berlin has speculated that to any human beings still alive in the 25th century one of the two outstanding features of the 20th century will be the development of pure and especially applied sciences.

Since we are now in the last quarter of the 20th century, should not the terminal date of the undergraduate modern history syllabus be changed? At present all but one of the papers end in 1939—nearly 40 years ago—long before the majority of the people in the faculties were born: undergraduates coming here this autumn were born after the 1956 Suez crisis. World wars do to be sure provide a convenient natural break for history syllabuses but surely revision is possible without them. Since 1939, the world has changed dramatically and this is especially true of science—its discoveries, its scale, its institutions, its finance, its potential effect on the life and death of nations, of civilization itself, and its actual impact on almost every aspect of society.

This recent period of science is not more important than earlier periods but it is no *less* important. Certainly within it the interrelationship between science and politics—between science and society—becomes more significant than ever and it is vital that it should be analysed and understood. Without proper historical handling, the recent past becomes a vacuum, which, being abhorred by nature, is filled by myth.

In urging that the study of modern history must include science, I have been talking primarily about undergraduate courses. Science is *not* marginal to these courses and it should find a place, not only in optional special and further subjects but in the basic and central political studies. Unless it is firmly rooted in undergraduate studies the history of science may flourish as a specialism but not as part of mainstream historical study. If we look after the undergraduate courses, good graduate studies will inevitably follow.

What is history to science? Was Medawar right when he wrote some months ago: "A view widely prevalent among the Young Turks of science is that interest in the history of science is a sign of failing powers"? Is this because, as is often suggested, the scientist is concerned with the future, not the past—"he has the future in his bones" according to one well-worn phrase. Yet to deny the role of the past in science is a nonsense; even an exponential curve is, in part, a historical statement. Both evolution—the basis of modern biology—and geology analyse the past rather than the future, while scientists who work on some of the frontiers of knowledge concern themselves with events that took place millions of years ago. Physicists, chemists and biologists study the origin of life on this planet or the origin of the moon. Astronomers observe light now that began its journey millions of years ago. By these standards a thousand years are indeed an event gone and all historians' history is contemporary stuff.

History cannot be divorced from the future any more than science can be divorced from the past. For today is tomorrow's yesterday. Its past—witness the lavish invocations of future historians at election time. Most historians do not accept the theories which see the past, the present and the future as steps in the "ascending ladder of necessity", nor believe that there work provides detailed lessons for the future. Yet from random, quite unscientific observation, I suspect that really good historians who look ahead in their fields of competence are often unusually perceptive.

Scientists are not necessarily any more prophetic than historians. It was not the scientists but writers of novels—in particular H. G. Wells in 1913 and Harold Nicolson in 1932—who foresaw atomic bombs and their political conundrums with extraordinary clarity long before nuclear fission was discovered. After this discovery in 1939 the consequences of atomic weapons were certainly foreseen but I have found no scientific papers in the subsequent twenty years which foresaw the new technical and political problems, the new timescale of history prescribed by future large-scale developments of nuclear power, and by the very creation of the new element plutonium with its radioactive half-life of 24,000 years.

History and science intermingle and cannot be separated by tenses. The deeply creative minds of our civilization, whether scientists or engineers or historians or politicians or artists or writers, are those for whom time itself is timeless. They do not concentrate on carving time up into convenient chunks: the past, the present and the future. Their minds range without limit.

How can historians help natural scientists to understand the past of their disciplines and professions? History can do this job the better if it is divorced from philosophy. The philosophical questions about science—about method, theories of knowledge, the universe and man's place in it and so on—will always be of very great importance to the historians. But I believe that historians' excessive preoccupation with the philosophy of science has had three unfortunate results. First, the leading exponents of the philosophy of science have restricted themselves to the physical sciences and have largely excluded crucial areas of science, such as the biological sciences and geology.

The second unfortunate result is linked with the first. Philosophically-minded historians have fastened a body of generalizations on to science, using specific historical examples to illustrate them without analysing historical evidence systematically. They have given natural science its own separate lineage through the ages, separated from the mainstream historical context of each period so that scientific ideas from Thales to Einstein are still staple history of science fare. Thus scientists are too often treated as a race apart.

The turmoil of history is lost.

Thirdly, philosophy has concentrated attention on one facet of science, that is on so-called pure science. Until Thomas Kuhn introduced his normal puzzle-solving scientists—the people working in the periods between the major turning points in scientific theory—philosophers concentrated on the great ideas of the great scientists. To Karl Popper the very words normal science are indecent.

This particular philosophical view of science is most misleading. Kuhn talks only of pure science. Philosophers, many historians of science and some scientists think only in terms of two categories—pure science on the one hand and applied science, which is equated with technology, on the other hand. But this is a gross over-simplification, and again we have loose definitions in this supposedly precise domain of thought.

The identification of history of science with philosophy of science has, however, produced a preoccupation with pure science; and pure science is assumed to be done by pure scientists so that a mythology of scientific morals has grown up. What other discipline is described as pure except the kindred mathematics? We do not have pure art, pure music, pure history or pure economics. The myths and stereotypes present scientists as essentially rational, ethereal, unearthly and unworldly; if there are other sides to their lives, whether political, religious or moral, they are kept in a quite different compartment. Yet in terms of numbers most scientists are in fact applied scientists. C. F. Powell himself a great pure scientist and Nobel prizewinner, said that 85 per cent of the scientists who have ever lived have been applied scientists: an impressive statistic even though its origin is not given.

I believe that this emphasis on the purity of scientists has done a great disservice to their profession. For when it is found that they do not behave like angels, the hackles turns them into devils, whereas they are just human, like other mortals, with the same mixed motives, mixed politics and mixed relations with their colleagues and competitors. The disservice inherent in these distorted views of scientists goes further. For there is an assumption that a paradise exists to be regained: that if scientists cleansed their post-1939 sins and became socially responsible, ethically unequivocal answers on all kinds of questions would then be vouchsafed to them.

Earlier I defended politics as a focus of historical study among history undergraduates, but said that it must include the politics of science. Science undergraduates should also study the political history of science. For science has been a part of politics for centuries—a crucial thread in revolutionary thought, an ingredient of state power whether measured in military or economic terms. How much more political is science today—at almost every level. What reasons, for example, can be given to society—to the taxpayers—for supporting certain forms of science rather than art or music or history or slum clearance or personal consumption? Moreover, some of the most agonizing problems arising from modern science are political, not scientific or technical. This is certainly true in my own field of research, atomic energy, whether we consider nuclear weapons or nuclear power. In public debates on problems which are of incalculable importance, and were once left to the experts, eminent scientists now tell us that their judgements is deeply influenced by their general estimate of human nature and behaviour—by their reading, that is, of history. Since so many scientists find themselves so deeply involved in various kinds of politics, even undergraduates who intend to pursue research should surely have some bipolismal historical preparation. This is equally, if not more, necessary for those who become scientists in industry or government and for the increasing numbers who move out of scientific work altogether.

The history of science has tended to be an esoteric profession in the past, too often uncongenial to mainstream historians and scientists alike. It has been predominantly, though by no means exclusively, an internalist subject concerned with pure science, and as some historians have looked increasingly at science in relation to society, they have been called externalists. Such sharp divisions are imaginary and unfortunately, for the external and internal sides of a problem are integral to one another. However, the history of science profession is indeed perceptibly changing. Not long ago when new departments were set up for the study of science and society they by-passed the history of science departments while now they are frequently joined to them. As the history of science moves into other fields of inquiry the emphasis will grow on historians' history—on the study of inter-relationships whether external or internal—rather than on what may be called historical science—the detailed reworking of mathematical papers or scientific experiments—which has provided in the past so much of the stock in trade of the profession.

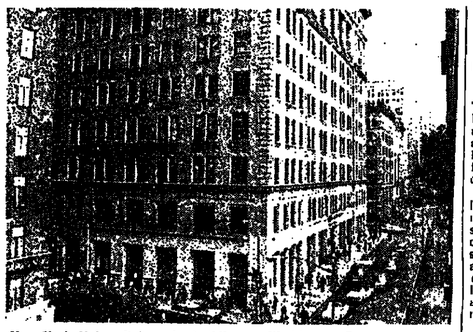


'Without proper historical handling, the recent past becomes a vacuum'

Margaret Gowing challenges the omission of science from the teaching of 19th and 20th century history, and the omission of history from the teaching of science

An edited version of Mrs Gowing's recent inaugural address as professor of the history of science at Oxford University.

American news



New York University's main building at Washington Square.

Job shortage gives boost to NYU summer studies...

from Frances Hill

NEW YORK

The number of students taking summer courses at New York University is expected to be 3 or 4 per cent more than in 1974.

This predicted rise in enrolments for summer courses at NYU reflects a nation-wide trend. Owing to the difficulty of finding summer jobs students are increasingly using the summer as a study period. Even part-time jobs are hard to find, so many students in summer programmes are taking more courses than in the past, studying full-time instead of combining study with a job.

Summer study has advantages for students and institutions alike. Students who study throughout two summer vacations may earn their degrees in three years instead of four, and those who study for one summer may shorten their college years by a semester. Institutions benefit financially from high enrolments during summer vacations. One of the reasons for the expansion of summer programmes during the past few years has been the parlous economic situation of many universities and colleges.

Universities have recently started doing "a better job" of summer programming, according to Robert Kiesle, of the Association of University Summer Sessions. They are considering students' needs more closely, and offering courses that students want instead of courses that faculty members opting for summer programmes feel they should teach.

Many institutions are now organizing several summer sessions instead of just one, with "maximum flexibility", so that students can take courses at most convenient. A student might hesitate to take on a session 12 weeks in length, so institutions are offering six and eight week sessions, or even three and four week sessions. New York University is providing 20 different types of sessions, within 10 university departments.

The range of summer courses varies widely from one institution to another but there are now few universities and colleges which offer no summer courses at all. As well as courses for credit for full or part-time undergraduate and graduate students already enrolled in institutions of higher education there are credit courses for teachers and other adults earning degrees solely or largely through summer sessions. Indiana University is tapping the "teacher market" by providing intensive courses for credit specifically for teachers immediately following the end of the school year.

New York University's graduate school of arts and sciences offers students the opportunity to gain a master's degree after two summers' study in France, and grants an MA in field biology to students completing two summers' work in a forest near New York. The NYU school of education grants MAs to students after three summers of study, two in foreign countries and one at the university.

Many universities and colleges offer non-credit courses during the summer as part of their adult education programmes, since for many adults the summer, when annual holidays are usually taken, is the best time for study. Of the 13,415 students who took courses at NYU in the summer of 1974, 2,910 were not seeking credits.

Only one university so far has had a higher enrolment during the summer than at any other time of the year: the University of Hawaii. But to a far greater extent than 10 or even five years ago the traditional distinction between term times and the summer vacation at universities and colleges is beginning to blur as more students opt to treat the summer recess as though it were a third semester.

but Yale finds it hard going

In 1972 the Committee on the Future of Yale College recommended that Yale institute an innovative, compulsory summer term system as a money-making venture to relieve Yale's $13m debt. The first summer term began on June 3, but far from being the financial lifesaver that it was meant to be, it will "just about break even", according to one Yale administrator.

The summer term concept was originally devised in anticipation of an attendance of about 1,400 students who would pay a total of $1m. Students would have been required to attend for at least one summer of their four years instead of leaving facilities idle in the summer.

The 1972 plan, however, was highly unpopular with both faculty and students, and after much debate was discarded in favour of a three-year experiment with voluntary attendance. Students objected to the mandatory nature of the project, and many of the faculty supported them.

After the compromise was struck, [illegible] College, said "there is an advantage in the optional nature of the term because it gives us a laboratory, or hothouse, to grow exotic innovative courses which can then be transplanted into the regular curriculum".

A total of 530 students have enrolled in the first summer term, and since tuition fees for the nine weeks are $1,365, they will save 25 per cent of normal fees during the autumn and spring terms. Although 625 students were needed in order for the summer term to break even, officials are hoping that sales can balance its summer budget.

The innovative nature of the summer term lies in its organization of courses into interdisciplinary programmes instead of departments. Courses are grouped into three centres, one devoted to the humanities, one to social sciences and one to the natural sciences.

Each centre has its own director and faculty and each offers courses grouped within comprehensive programmes. One of these programmes, a cluster of courses on the Enlightenment, will be included in the fourth international congress on the Enlightenment, which will bring scholars from 25 countries to Yale.

Colleges get 'minority bias' reprieve

from Angela Stent

NEW YORK

The Office of Civil Rights of the Department of Health, Education and Welfare has worked out an agreement with the Department of Labour which may save 14 colleges from losing over $20m in federal contracts.

The colleges were in danger of losing the contracts under a Department of Labour executive order stipulating that federal contracts over $1m should not be paid to institutions which have not initiated acceptable affirmative action procedures. "Affirmative action" is the hiring of minority group members and women in proportion to the numbers available for employment.

With the approval of the Department of Labour, the Office of Civil Rights has offered the 14 colleges the option of signing an agreement to meet with Office of Civil Rights officials and then to begin taking acceptable affirmative action measures within 30 days, in return for receipt of the federal contracts on July 1.

The 14 colleges in danger of losing their contracts were among 32 granted federal contracts whose affirmative action procedures were not found acceptable by the Office of Civil Rights.

The other institutions have managed by various means to avoid reaching a situation in which their contracts are in jeopardy.

Some have negotiated to have the amounts of their contracts lowered to below $1m, so that they are no longer affected by the executive order, and some have been able to postpone receipt of their contracts until September 30. In this latter case the institutions are receiving contracts from the federal Energy Research and Development Administration which does not automatically lose its funds for contracts if not paid out by July 1.

These colleges, which include Harvard, Yale and Princeton, may be able to institute acceptable affirmative action procedures within the next three months.

The measure which the Office of Civil Rights has had to take in order to prevent institutions losing contracts highlights the difficulties inherent in the Department of Labour executive order as applied to educational institutions.

The order rules that all employers —including universities and colleges —must analyse the proportions of Blacks and other minority group members and women on their staff and set goals in which procedures can be submitted and checked.

Federal agencies granting contracts released details on the amounts and institutions involved only at the beginning of June. In many cases the sums granted to institutions must be paid by July or the money will no longer be available, so that it is impossible to delay payment until the institutions have come in line with the law.

It also means making a survey of the numbers of women and minority group members available for employment in the institutions. This procedure is highly complex, since universities and colleges clearly recruit faculty on the basis of a number of considerations such as academic standing, success in publishing original work, estimated teaching ability and more intangible personality factors. It is extremely difficult to enumerate the minority group members or women with the right qualifications for particular academic posts. It is also time-consuming and expensive, posing real problems for small institutions.

Union calls for end to FBI 'interference'

from our correspondent

NEW YORK

Professor William van Alstyne, president of the American Association of University Professors, has called on the United States Attorney General to make "enforceable assurances" that the Federal Bureau of Investigation will in future be prevented from abusing the rights and liberty of individuals.

He has also requested that dismissal proceedings be initiated against FBI officials who were involved in the case of a tenured university professor who was sacked from his post without adequate cause.

Professor Morris Starsky was dismissed from Arizona State University in June, 1970, after FBI officials had sent an anonymous letter to a university faculty committee convened to consider Professor Starsky's dismissal.

The letter claimed that Professor Starsky had behaved in a physically threatening manner on one occasion—a claim totally denied by those who could have been party to the alleged incident, according to Jordan Kurland, associate general secretary of the AAUP—and that he was financially irresponsible and a liar. None of these claims was substantiated.

The committee decided against dismissal but the Board of Trustees overruled them and fired Professor Starsky. They accused the professor of taking part in activities likely to be damaging to the reputation of the university, such as absenting himself from ASU for a day to address a student rally on another campus.

Last February, as a result of the passage last year of the Freedom of Information Act, Professor Starsky succeeded in obtaining FBI documents relating to his case from Mr William B. Saxbe, then Attorney General. He discovered the existence of the letter sent to the committee, signed "a concerned ASU alumnus" but in fact written and sent by FBI employees.



Professor Starsky: anonymous letter.

He informed the AAUP, already concerned with his case, and as a consequence Professor van Alstyne made his appeal to the Attorney General.

Professor van Alstyne has received no reply from Mr Saxbe, but Mr Clarence Kelly, director of the FBI, has claimed that FBI activities of the sort in question were "designed to counter the conspiratorial efforts of revolutionary elements in this country" and that, in his view, "FBI employees involved acted entirely in good faith".

Professor van Alstyne has written to William Saxbe's successor, Mr Edward Levi, asking for assurances to provide some basis for restored confidence in the FBI as a national police". The AAUP voted unanimously at their annual meeting last month to request Congress to establish effective legislative control of government agencies to ensure that they operate "only in ways consistent with the constitutional guarantees of individual liberty".

The AAUP has already urged the university to reinstate Professor Starsky. So far the Board of Trustees have refused. They are expected to offer a "cash settlement" in lieu of reinstatement, but Professor Starsky claims he will not accept such an offer. If the Board of Trustees decline to reinstate the professor after a court order to do so they will be in contempt of court and liable to fines or imprisonment.

Senior citizens study work problems

Students ranging in age from 62 to 84 have enrolled in a new training programme, "Employment Opportunities for Older Adults", organized by the School of Continuing Education at New York University.

The project has three aims: to determine employment opportunities for the elderly, to design training programmes leading to paid employment or volunteer service, and to advise the elderly regarding work projects and educational needs.

Two of the five courses already counselling," 10-week courses that prepare students to help old people with problems concerning medical assistance, housing, welfare, transport and relations with the police. The other three courses are in "leadership development", eight-week courses designed to prepare participants to take on para-professional roles in the organization and administration of senior citizen centres.

Further courses being developed are in retirement counselling and employment placement service for

Enrolment up among Blacks and women

College enrolment among women and Blacks has increased dramatically over the past decade, says a report from the Census Bureau. Enrolment among women has approximately doubled since 1964 and among Blacks it has grown from 234,000 in 1964 to 684,000 in 1973, an increase of 192 per cent. But whereas one-third of White youths aged 18 to 21 were enrolled in college in 1973, for Black youths in the same age group the figure was only one-fifth.

The Census Bureau report, *Characteristics of American Youth: 1974*, shows that the children of white-collar workers are more likely to attend college than the children of blue-collar workers. In October 1973 55 per cent of high school seniors whose families were headed by white-collar workers reported that they planned to attend college, compared with 33 per cent from families headed by blue-collar workers. Conversely, a higher percentage of high school seniors from families headed by blue-collar workers reported plans to enter vocational schools.

About 10 per cent of seniors from white-collar families reported no plans for higher education, compared with 21 per cent of seniors from blue-collar families.

More women graduate students

from Don Speich

PALO ALTO

Minority group enrolment dropped slightly, while women increased across the board in Stanford University's graduate and professional programmes during 1974-75, according to a report by graduate dean Mr Lincoln Moses.

Black Chicago and native American enrolment is placed at about 535 this year, down two from last year's total. The number of women graduate students rose from 983 last year to about 1,128 this year.

The total enrolment in Stanford's graduate and professional schools was 4,895 this year as compared to 4,823 last year.

During the past two years, said Mr Moses, total Black applicants for Master's and PhD programmes in the humanities dropped more than 50 per cent while those in the social sciences declined 38 per cent.

A year ago Mr Moses reported a significant shift from doctoral professional degree programmes in business, law and medicine among minority students. Declining applications from American Indians and Chicanos increased substantially, more than offsetting a slight decline

Judy Chase talks to Dr James Maraj, the new vice-chancellor of the University of the South Pacific

Survival will depend on 'usefulness'

The challenge facing Dr James A. Maraj as he takes up his new post as vice-chancellor of the University of the South Pacific at Suva, Fiji, this summer is little short of overwhelming. He reckons that the fledgling university may not survive the next decade unless it proves itself as the regional institution it was originally intended to be. He also knows that it will be up to him to steer it on to that course.

Dr Maraj, who has earned himself a reputation as a creative thinker during his tenure as Commonwealth Assistant Secretary General, said in his Marlborough House office in London that he is looking forward to the chance to apply his unconventional ideas on higher education in the USP job.

To all appearances, the 44-year-old educationist from Trinidad is the ideal choice for the South Pacific post at this time both in terms of personality and experience. Before coming to the Commonwealth Secretariat in 1970, he served for three years as head of the University of the West Indies' Institute of Education, where he dealt with 14 separate governments and learned, as he puts it, "to walk between the raindrops and not get too wet".

Dr Maraj anticipates that his hopes for USP are likely to be received as heresy in established academic circles. Nevertheless, he is convinced that "universities, particularly those in developing countries like the South Pacific Islands, no longer have the right to be supported by governments while behaving as though they were separate states".

It was no longer enough for them to concentrate on the throughput of students, who get prescribed dosages of knowledge in three to four years and then go back home. In addition to serving as a vehicle for meeting society's manpower needs, universities should begin to respond in a much more dynamic way to the development of the society itself. "So, if the object of the South Pacific countries is regional development, then the University of the South Pacific should be one agency of regionalism."

In anticipation of the arguments likely to be waged by those who would disagree with him, Dr Maraj stressed that he does not mean the USP should be without an internal philosophy or that it should become a kind of South Pacific handyman ready to dispatch a fix-it-up team in response to any and every little problem that should arise. He simply believes that "universities must concern themselves with the burning issues of the day, not necessarily by adopting postures, but at least by generating the background knowledge against which important decisions could be taken".

Since USP was established in 1968 to serve 10 South Pacific island communities — four independent Commonwealth members (Fiji, Western Samoa, Tonga and Nauru) plus six other territories (British Solomon Islands, Cook Islands, Gilbert and Ellice Islands, New Hebrides, Niue and Tokelau Islands)—it has been dominated by Fiji. At the moment three-quarters of the institution's $A1m annual operating budget and two-thirds of its 1,000 student enrolment come from Fiji.



Dr Maraj: on a tightrope.

USP's emphasis so far has been on student training, particularly the upgrading of school teachers. Apart from its faculty of education, the university also has faculties in natural resources, social and economic development and extension studies.

Dr Maraj is not critical of what has been accomplished at USP during its first seven formative years under the vice-chancellorship of Dr C. C. Aikman, who is leaving to become New Zealand's High Commissioner to Delhi.

In fact, he says he would "argue strongly that a good job has been done" of getting this essential function under way. But he feels it is imperative that the university move on now to fulfilling its regional function.

Dr Maraj will give priority to establishing a problem-oriented development institute, which he sees as the key to the university making a regional impact. The institute would consist of a multi-national, multi-disciplinary team of specialists who would have joint responsibility for spreading the university's presence throughout the region.

Another urgent priority will be an extensive staff development programme to train local people to fill key positions in the university. At present, a high proportion of those in top positions at USP are foreigners, mostly from New Zealand.

The incoming vice-chancellor's next priority would be to give USP a Pacific flavour. Specifically, he would like to see Pacific studies become a much more integrated part of the work of all students than it is now.

He argues that before the question of affordability can be faced, governments in the region must first be persuaded that "there is something in the milieu at USP which makes it worth having. Right now, some of the countries feel that what they are getting there they could get more cheaply elsewhere—at the Australian National University, for example. Therefore, it would be futile for me to expect to raise new funds just by doing a round trip through these struggling communities and saying: 'Well, here I am.'"

Australia

Major funding urged for non-university sector

from John Kirkaldy

SYDNEY

The report of the Commission on Advanced Education in Australia has recommended federal spending of A$1,681m (£960m) over the next three years. This will mean an annual increase from the present A$400m to about A$560m.

The commission, which was established in 1971, advises the government in relation to Australia's 85 colleges of advanced education. These include all tertiary colleges (except universities, which are the responsibility of the Australian Universities Commission), institutes of technology, music conservatoires, agricultural, theological and teachers' colleges.

The basic theme of the commission's report is the consolidation of recent spectacular growth rates. In 1963 there were only 28,000 students in advanced education. By 1972 this had grown to 95,000 and the current figure is 123,000.

The report urges that A$564m be spent on capital works but this is mainly to improve or extend existing institutions. The commission hopes that institutions will increasingly share and pool resources. It envisages further pressures on existing facilities, as it believes that student numbers will have grown to 175,000 by 1978.

The allowance of A$1,093m for recurrent expenditure includes A$6m for study leave for academics at the colleges.

The commission noted that 42 per cent of all students in advanced education were studying education courses, while commerce and business studies accounted for 20 per cent and engineering and technology only 10 per cent. The report emphasizes the need for more places in teachers' colleges to cope with the increased numbers under the federal schools programme.

New projects outlined in the report include a college of education to be built on Queensland's Gold Coast (to be completed by 1979), a multi-vocational college in the Cockburn area of Western Australia and the reallocation of several New South Wales colleges into new buildings, including the Sydney College of Arts.

The commission recommends that A$4m be spent to provide residential accommodation for more than 520 students. The proposal is that the government provides up to A$6,000 towards the cost of each student place in a residential college with the balance to be borne by the donors. It also recommends student allowances of up to A$235 for those students in a residential college.

The whole report is subject to the approval of Parliament and there have been some suggestions that the figure of A$1,681m may be slightly reduced. Critics of the figure point out tertiary education in 1964-5 comprised 2&5 per cent of total public expenditure but in 1973-4 this had risen to 34.7 per cent; in contrast, the proportion of funds for schools in the same period dropped from 65.4 per cent to 58.6 per cent. Mr Kim Beazley, the federal Minister for Education, has indicated that the $A2,070m requested earlier this month by the Schools Commission is more likely to be left untouched.

Sweden

Pay stays ahead of inflation

from Mike Duckenfield

STOCKHOLM

With average annual price rises of only about 8 per cent so far during the 1970s, Swedish university teachers have gained real increases in salary according to figures by the Central Bureau of Statistics.

The figures show that in the period 1971-73 monthly earnings in universities rose between 10 and 15.5 per cent.

The biggest rises went to the lowest grades of research assistant and lecturer. They each received increases of between 14 and 15.5 per cent. Assistant professors and professors, on the other hand, only received rises of between 10 and 11 per cent.

The overall result, in view of 16 to 25 per cent increases in earnings among school teachers, has been to slightly diminish the gap between the 19,000 teachers of seven to 10 year-olds at the bottom of the educational pay scale and the 1,000 professors at the top.

By the end of the period comprehensive school teachers were earning between the equivalent of £5,150 and £5,940 a year; secondary school teachers were earning £6,260 to £8,200 a year; and research assistants £4,830, university lecturers £8,265, assistant professors £8,560 and professors £9,600 a year. Since then there have been increases of roughly 10 per cent.

New Zealand

Auckland probes home backgrounds

from Brian Priestley

CHRISTCHURCH

Research into the background of 1,000 first year students has begun at the University of Auckland as part of an attempt to improve the educational environment in which they work.

Later in the year, two groups of about 100 students each will be interviewed. One group will be students who are doing well—the other will be drawn from those who are performing poorly.

The aim will be to try to relate their success, or failure, to the background data and the educational environment in which they are working.

Republic of Ireland



Fota Island's stately home: tomorrow's campus for Cork?

Cork lands itself an island —and financial surplus

from Peppy Barlow

DUBLIN

University College, Cork, has pulled off one of the most spectacular land deals ever concluded by an educational institution in the Republic—a deal which may provide it with an embarrassingly large financial surplus, but which will also involve the college in disputes both with local farming interests and the Higher Education Authority.

The college's governing body has decided to take up an option to purchase Fota Island a 780-acre estate 10 miles from the centre of Cork city, for about £400,000. It includes 300 acres of park and woodland, 350 acres of arable land, some of which will be used as the basis for the Faculty of Agriculture farm, a world-famous collection of trees and shrubs, walled gardens, and an early 19th century stately home.

To finance the purchase, the college is to sell 150 acres of agricultural land which it owns at Ballincollig, on the other side of the city, and which is being sought for an industrial estate. The value of this land is estimated at £700,000, and the college also owns further land which is under pressure for housing development and which could, if sold, realize another £300,000.

Fota Island, which is approached by a bridge over a tidal inlet, has in fact been spoken of as a possible alternative campus (the college's 4,000 students are presently taught in relatively crowded conditions near the city centre), but at the moment the only use envisaged for it is as the farm centre for the Faculty of Agriculture.

The minor improvements and alterations necessary to make it into the farm centre will, however, still leave a surplus of income over expenditure in the region of £250,000: the immediate problem facing the college authorities is whether they will be allowed to spend this windfall themselves.

There are many projects connected with the college on which they would like to spend the money, but the likelihood is that the Higher Education Authority, the statutory body which advises the Minister for Education about the funding of higher education generally, will insist that national priorities must take precedence over local interests.

The Minister could, on the advice of the HEA, reduce the college's general grant by the amount of their surplus on the deal, if the college refused to agree with this point of view.

While all this going on, the college will also have to pacify a group of irate local farmers, who hoped that the land would be publicly acquired and divided among them, and who sharply resent the college's alleged lack of consultation with them on the issue.

West Germany

Bavaria in new clash over university capacities

by Günther Kloss

In the continuing absence of a federal general framework law for universities, each constituent state is carrying on enacting its own university law for the institutions within its jurisdiction.

Bavaria was the most recent *Land* to pass a new law, which came into effect in October, 1974. For the past few months the Bavarian universities have been trying to implement its provisions and to revise their own statutes. There has been considerably fewer protests from students and staff against the Act than in many other *Länder*. This is not because Bavaria has found an ideal solution to the universities' major problems—indeed, the Act is considered to be a rather conservative one—but because of the general decline of the protest movement in all West German universities.

Even among the formerly active section of the student body apathy now appears to be growing. Recent elections to the University Assembly, the new supreme decision-making body of the universities, and to the boards of the new schools of study, show that fewer students voted than in previous elections.

In Munich poor turnout may have been due to a call by left wing students to boycott the elections. But the consequences for the student body are nonetheless serious. The Act says that if less than 50 per cent of those entitled to vote in any group do so, their membership in these elective bodies is reduced correspondingly. Since in Munich the number of student voters fell below the quorum of 50 per cent the student representation will consist of only 29 members instead of its full strength of 68.

The Act permits collective leadership of an institution instead of a single elected head, and Munich is one of the few universities that has opted for this solution. It has a president and several elected vice-presidents. This decision was made in view of the size of the university, which would make the administrative burden on an individual vice-chancellor intolerable. Munich has the distinction of being the largest university in the country. It had 35,700 students lost winter, an increase of 5.7 per cent over the previous year.

The whole matter of admissions is causing disagreement between the university and the Bavarian Ministry of Education. The Central Admissions Office has developed a complicated formula according to which the student capacity of every departmental unit is now being determined by every university throughout the Federal Republic in all those subjects where admission is restricted (*THES*, February 28).

According to this formula, with which no one is happy, Munich is one of the most overcrowded institutions in the country. None the less, the Ministry, which believes that the university has more space and staff that it has admitted, has forwarded figures to the Central Office for in excess of what the university says its capacity is.

At the same time the Ministry has introduced a modest yet significant dose of manpower planning. While the university calculated it had 1,804 new teacher training places and proposed to admit 1,400 new students, the Ministry cut this figure to 1,200. Similarly, the university's proposed intake for sociology (220) has been reduced to 150, though this is still beyond the university's calculated student capacity of 125 for this subject.

TIMES PAST
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The future of books

Contacts between publishing, bookselling and the world of higher education have grown apace recently. They are to be welcomed in forms such as the conference on books and undergraduates held last week under the auspices of the National Book League, which will undoubtedly lead to a better understanding of students' reading lists, publishers' advertisements and booksellers' stocks.

The new contacts have other benefits, too. Elementary economics textbooks—which, incidentally, are a lucrative source for some publishers—tell us there are few examples of perfect markets in the real world. The book market is certainly not one. But when it comes to publishing academics' books, whether they are monographs resulting from research or books for teaching students, the test of the market can be a valuable discipline.

At last week's conference Sir Frederick Dainton, chairman of the University Grants Committee, complained about a vast inflation of titles of new books published in recent years. He may have been a little naive in not examining further the cause of this boom. Publishers, by and large, work according to the commercial rules as efficiently as other sectors of British industry and commerce. If titles have proliferated it has been because libraries, departments and academics have bought them. The corollary of this was stated quite plainly by Sir Frederick. The reduction in the expansion of higher education will mean it becomes more difficult to get published as books become harder to sell. The market test is a good one for it absolves publishers from making judgments about academic worth yet the better books are likely to survive.

This line of argument should not be taken too far. Sir Frederick's point was an interesting inversion of the more—means—worse controversy. He said the fewer titles could mean better quality work getting to the academic public; publishers would go for better authors because they would be more saleable. But this leaves little scope for novelty, for the untried young academic without a reputation, for new thinking.

Does the market need cushioning? Publishers are averse to any suspicion of state subvention, even in the relatively innocuous form of a national research series as suggested recently by a group of Oxford academics. Their answers tend to lie in the economics of the trade: cheaper technical methods of production, widening the export market because of the smallness of the British higher education world.

The situation is untidy but does not yet lend itself to that word of the moment—crisis. For example, publication is more than getting new ideas or a new teaching approach across to an audience, it is a symbolic action. Publication nowadays is a very important index of an academic's worth when it comes to promotions and assessment. It is untidy in that, as the publishers say, more and more books have to appeal not simply to the British university world but to the English-speaking world overseas, which by and large means the United States.

Writing for America could lead to a kind of sideways stretching of material and thought that could make a book vacuous. Equally, what price does the ecumenicism of scholarship have: a book destined for America can be sold in the home market at a lower price making it more generally available. Writing for America could improve the quality of the work, not least in making the author more aware of students' need within the more formal courses common in American higher education.

In fact, the American model of student textbooks, particularly in one of its British publications—the Open University's course materials—has been outstandingly successful in recent years. Here the point made at last week's conference by one of Routledge and Kegan Paul's editorial staff was important: the retrenchment in educational spending and publishers' cash flow problems could hit this kind of academic innovation which has been spurred by the growth of new polytechnic degree courses, a reappraisal of teacher training, the DipHE and of course the OU itself.

The point of the OU's success is that materials prepared for a specific kind of audience have acquired the reputation that makes them desirable for other kinds of educational audience. Likewise becoming an "OU author" is greatly desired by academic writers because of the secure payments it brings. What is important is the example the OU has given to other institutions. A halt in the expansion of higher education should not stop innovation in educational materials—a responsibility not of publishers, but of academic staff who more and more will have to pay attention to the detail and costs of their teaching.

At this point some academics hesitate, with some justification. They have grave pedagogical objections to "spoon feeding" methods such as over-detailed course materials, the expansion of snippets and "readers" as opposed to original sources and monographs. They consider there is a danger in consumed education, predigested in the American way with the consequent loss of the heuristic approach for the student.

The drawing together of publishers and academics will make that kind of shifting emphasis easier to work through in the practical publication of books. Having fewer books to publish—which is certainly the fate of most of the larger publishing houses—could provide a useful breathing space for just that kind of reappraisal. No one is going to welcome retrenchment without qualification, but Sir Frederick Dainton's sighing of some positive gains from slackening the pace of publication is a view to be shared.

Tertiary colleges

from Mr David Terry

Sir,—Lord Alexander (*THES*, June 20) does not tell us why he considers the establishment of tertiary colleges to be entailed inevitably by the development of comprehensives of limited size and I am, therefore, compelled, in seeking to challenge his conclusion, to guess at his assumptions.

Perhaps he thinks that it would be cheaper to run sixth-formers from a number of schools together in one (large?) establishment. If so, I wonder whether he read that Mr Armstrong, in a parliamentary written answer on April 14, gave the overall ratio of students to staff as sixth form colleges in England and Wales as 10.7:1? Most 11-18 staff sixth forms in schools are about 12:1. There is not the slightest reason to suppose that sixth forms or tertiary colleges would save money on staffing. And it is surely obvious that in terms of facilities and equipment they would be more expensive as they would necessarily duplicate facilities already existing in schools.

It is sometimes maintained that small sixth forms can provide only a very limited range of subjects. I know of no objective evidence on this but I do know that schools up and down the country are cooperating so as to pool their resources and increase the range available. There is no reason to think that tertiary colleges have a significant advantage in this. Indeed, by attracting scarce specialist teachers away from the schools, the tertiary college directly threatens minority subjects, such as Latin, which can then exist only as post-16 subjects.

Or perhaps Lord Alexander subscribes to the view that there is a more adult atmosphere in a tertiary college which enables a sixteen-year-old to blossom in a way which a fifteen-year-old would not.

Yours faithfully,
DAVID TERRY,
Headmaster,
The Headlands School,

LETTERS TO THE EDITOR

Academic publishing

from Dr Ursula Henriques

Sir,—A typescript of some 500 pages, the fruit of 10 years work, which had been destined by agreement for a well known historical series of a very well known publishing firm, was returned with the following comment: ". . . our difficulty at the moment is to produce a book like this and publish it at a price which the market can afford. . . . The market seems to be diminishing daily. It is a crying shame when good scholarship just cannot appear because of economic forces."

At present any postgraduate dissertation enjoys better circulation than an unpublished book. At least it is listed, and can be obtained through inter-library loan. The book, inhabiting a bottom drawer, is not known to exist. There appears still to be a chance for the frankly popular, the slim monograph (comparatively inexpensive to print), or the learned specialized text to which certain university presses prefer to devote their resources. The substantial and formerly saleable work of scholarship of 100,000 words or over, now, it seems, has little prospect of finding a publisher.

No censorship can stifle creative endeavour as effectively as refusal, for economic reasons, to publish.

As the situation deteriorates the following questions arise:

How can university teaching worth the name be carried on when the latest thinking on the subject taught is unavailable?

On the assumption that senior academic posts still occasionally become vacant, how can chairs, readerships and so on be filled when the evidence of creative work by the candidates is unavailable?

Seeing that most people choose a university career largely for the sake of the opportunity it gives for research and scholarship, and seeing that writing is normally considered a function of the university teacher, how can that function be fulfilled when publication is unavailable?

I have as yet seen no indication that the seriousness of the situation is appreciated by senior academics and administrators. Presumably Leverhulme and similar grants are being distributed as usual, without reference to the likelihood of the completed research ever seeing the light of day. Is it not time that leading academics, university administrators, and above all, the university presses, joined to devise a rescue operation? They would need to find out what funds are obtainable, set up machinery for the different disciplines to sort out priorities, and consider some form of publication less costly than the fully bound and printed book. While it would be important not to allow this to develop into any kind of permanent official control of academic publishing, just now it would be better to risk even that than to leave scholarship at the mercy of a collapsing commercial market.

Yours sincerely,
URSULA HENRIQUES,
University College,
Cardiff.

Teacher training cuts

from Mr Denis McCready

Sir,—Government proposals for even more drastic cuts in teacher training numbers, put to the Advisory Committee on the Supply and Training of Teachers on July 1, 1975, seem to make it more likely that serious consideration will be given, once again, to the proposal to admit no students at all to any three year courses of teacher training in 1977 or 1978.

Until this July it was understood that the Department of Education and Science initial training intake proposals were for 23,000 students in 1976, 17,000 in 1977 and 12,000 in 1978. Now we know that a further cut of 13 per cent is proposed for 1976, the chances of a nil intake in one year before 1979 looms before the colleges as a possibility. What may have been likened to a bad dream by college of education staff looks like becoming a nightmare with every college under threat no matter what assurances it may have been given for the future.

These proposed cuts call into question the viability of the whole college of education sector. But they do so only whilst the sector is engaged solely in the training of teachers. If the sector could produce integrated and coordinated plans for diversification on a revolutionary scale the job prospects of thousands of lecturers could be improved and threats to unemployment would disappear.

The situation could be changed very rapidly if colleges of education, however reluctantly, were prepared to offer most of their places to students who wished to follow joint courses in educational studies without a teacher training element. A minority of places in every college of education would be for students on courses of initial training. This could be achieved if colleges replaced their BEd degree courses, which are initial training courses, by courses leading to the awards of a BA or BSc (educational studies) without a licence to teach. The educational studies undergraduate courses would not be courses of initial training. A number of British universities have been offering courses of this type for several years and they have proved as popular as they might in colleges of education.

Similarly, if colleges replaced the certificate of education by DipHE (educational studies) courses without a licence to teach, the students on these courses would not be students in initial training.

Postgraduate and post diplomate courses of professional training with a licence to teach would need to be available for initial training.

For college of education staff who are wedded to the notion of concurrent training and are opposed to end-on courses, the proposals for educational studies degrees and diplomas to be followed by initial teacher training may not be attractive. The alternative would be for them to stay in a system of concurrent training in which all their students would be identifiable as students in initial training and therefore subject to cuts which must flow from population changes which they cannot control.

Some colleges have moved in this direction already and they have plans for extensive diversification. Talk about closures or about a reduction in numbers would seem to be irrelevant if all colleges developed plans for diversification so that the great majority of college of education students would not be identified as students in initial training for teaching. Colleges may be very reluctant to depart from the past with its single-minded commitment to teacher training but they need to recognize the necessity to enter the future with a belief that they have a major contribution to make in educational studies for non teachers. How else can they hope to survive? Diversification is no guarantee of survival but it could raise the viability of the colleges.

Yours sincerely,
DENIS McCREADY,
Clifton Crescent,
Solihull,
Warwickshire.

from Mr Eddie Wainwright

Sir,—It is to be hoped that your leader on the subject of the savaging of the colleges of education (*THES*, July 4) will help to persuade the DES to show its hand, though I doubt whether, even if it did so, the colleges would now be in the slightest degree placated or reconciled to their fate.

We can only suppose that either the DES has (in spite of all appearances to the contrary) a subtle plan for the reorganization of teacher education which is is concealing (a) in order to pick off individual institutions on the basis of some absurd logic which it realizes nobody but itself would understand; (b) in order to avoid massing to the point of militant action the immense anger and frustration which a revelation would surely provoke and are at present being conveniently contained by fear and demoralization; or, quite simply, that it has no plan other than the one it is making up as it goes along. Neither possibility inspires confidence.

Yours sincerely,
EDDIE WAINWRIGHT,
Benville Avenue,

War studies

from Mr Malcolm Pittock

Sir,—In a journal meant for an academic readership, Kenneth Minogue's belligerent piece (*THES*, July 4) was out of place. He should argue his views fairly, not sustain them by falsification and misrepresentation. Issues are never clarified in such a way. Let me give some examples:

(1) There is, I believe, no evidence to suggest that Hitler planned to invade Britain independently of the British declaration of war in 1939. The object of his pre-war foreign policy was expansion in central and eastern Europe. Further, in 1940 there is evidence that Britain could have come to terms with Germany (Hitler's terms, of course) and that these would not have involved occupation. These facts have no bearing on the question as to whether Britain's declaration of war was justified. They do bear, however, on whether that war was, strictly speaking, one of national defence as it was for, say, Poland.

(2) Mr Minogue states (to ridicule) one of the arguments put forward by the Campaign for Nuclear Disarmament. There were two other important ones: (a) that in a nuclear war a Britain with nuclear weapons and nuclear bases would be a priority target and that, in view of the geographical area of the United Kingdom, this involved an appalling risk of annihilation; (b) that it was morally wrong not only to use, but also to threaten to use nuclear weapons—a view sustained with considerable cogency by Catholic academics of the calibre of Peter Geach and Elizabeth Anscome. The argument which Mr Minogue ridicules has to be seen in the context of the dangers (still with us) of nuclear proliferation. Mr Minogue may have no sympathy with the CND but that does not entitle him to pretend that their arguments were simpler than was in fact the case.

(3) A weapon does not become "scrap" because, like a corroded fire extinguisher, it will no longer work, but because it has been superseded by a technologically more sophisticated weapon. A weapon that has to be "scrapped" may be in excellent working order.

Yours faithfully,
MALCOLM PITTOCK,
St Peter's Street,
Manchester.

NELP cuts

from Vivienne Purfitt

Sir,—I would like to know the basis of Dr Brosan's claim (*THES*, June 20) that the Association of Teachers in Technical Institutions' document on staffing cuts at North East London Polytechnic is a "typical International Socialist ploy". The document was researched by a working party elected by the branch and approved by a full branch meeting, most of whose members are certainly not International Socialists. It is interesting that the fullest criticism offered of the document is that it is "partial" but no details of the nature of the partiality are offered.

I am also rather puzzled by Dr Brosan's claim not to have seen the document before, as he commented to me and another ATTI member on this document during the refreshment break of the same academic board at which it was distributed on May 21.

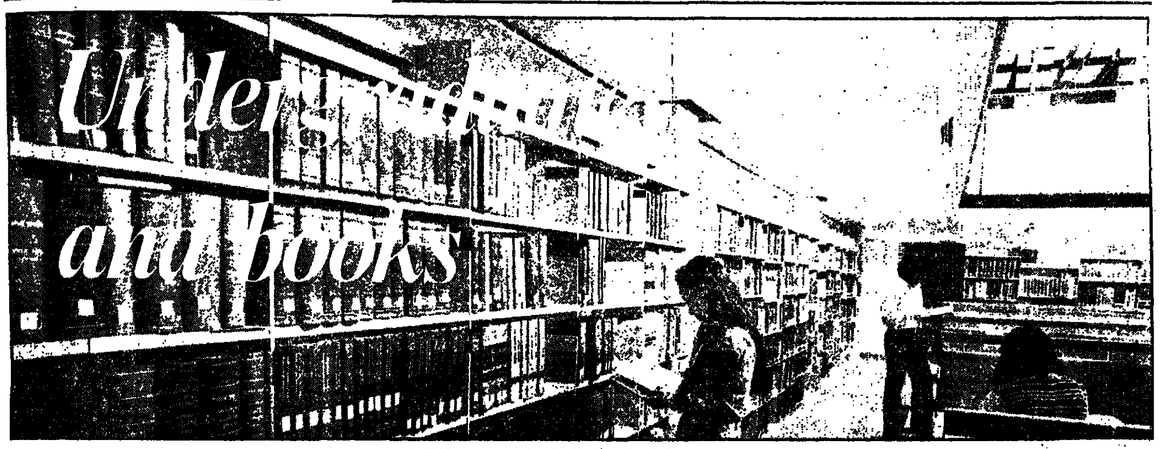
Yours sincerely,
VIVIENNE PARFITT,
ATTI Member,
North East London Polytechnic.

Annan

from Mr Clifford Jeans

Sir,—My answer to the letter from Lord Annan (*THES*, July 4) is: Thank God that a respected voice of influence has at last been heard.

Yours faithfully,
CLIFFORD JEANS,
Department of Business Studies,



A conference held at Royal Holloway College from July 4-6, 1975, organized by the National Book League.

To some, other points of view came as revelations

A high level inquiry should be set up into the problems of academic publishing and their implications for teaching and research in higher education, it was agreed.

The resolution was put by Professor William Twining, of the school of law at Warwick University, on behalf of the Society of Public Teachers of Law working party on law publishing. He urged the sponsors of the conference to press for such an inquiry in view of the prices of academic publishing in higher education.

It was agreed that the sponsoring committee of the conference, which included the National Book League, the Association of University Teachers, the Booksellers' Association of Great Britain and Ireland, the Council of Polytechnic Librarians, the Library Association, the National Union of Students, the Publishers' Association and the Standing Conference of National and University Libraries, should be kept in being to consider this and other recommendations made by working groups, and take action on them.

The conference chairman, Mr Martyn Goff, head of the National Book League, emphasized that the theme of the conference should be "interdependence" and many of the 250 participants said it was the first time they had heard the point of view of some other groups. One lecturer bravely admitted that she had not been aware until the conference of the need even to communicate with the bookshop. She would now endeavour to pass this knowledge on, she said.

Speakers included Dr Peter Mann, reader in sociology at Sheffield University, Mr Norman Higham, librarian of Bristol University, and chairman of the university, college and research section of the Library Association, Mr Brian Southam, editorial director of Routledge and Kegan Paul, Mr Robert Clow, managing director of John Smith Booksellers, Glasgow, and Sir Frederick Dainton, chairman of the University Grants Committee.

Summing up the recommendations of the working groups, Professor John Jepson, of the Courtauld Institute of Biochemistry at Middlesex Hospital School, said that the problems fell chiefly into three areas. They were: university courses, and the interaction of teachers, books and undergraduates; the relationship between teachers, publishers and booksellers; and the variety and type of publications which might arise through choice or necessity from the current situation.

The attitude of lecturers to books in higher education was fundamental to the whole problem, Mr Gordon Graham, of Butterworth's, said in presenting his group's conclusions. "Information on the use of books by students, both in libraries and in private study is the most important pressure group on lecturers in this respect and should continue, through the National Union of Students, to make their needs felt, he said.

On behalf of libraries, Miss L. R. M. Bishop, of the University of Reading library, emphasized that while libraries had to fight for finances, it was crucial that lecturers supported them. Librarians were not usually on university committees and it was, therefore, essential that the lecturers represented their interests.

Mr David Browning, a lecturer at Bristol Polytechnic, said that his group had decided that underuse of libraries was due to the schools. Library instruction should be given at this level to encourage reading habits, he said.

In higher education the real difficulty was the lack of recognition of librarians, both academically and financially, as equal to lecturers. Librarians should be involved in curriculum and course development.

On the question of how teachers could be made more aware of the problems of booksellers and publishers, Mr Peter Stockham, of Dillon's University Bookshop, said a formal liaison system between lecturers, sellers, publishers, librarians and students should be set up, possibly in the form of a committee.

The course text book was much discussed as another way of cutting down the number of academic books available and making economies. Mr Sidney Josephs of the Macmillan Press, said that his group felt the course text book was unlikely to be used on a large scale, because there could see no likelihood of lecturers or publishers working this out together. Economic constraints would necessarily curtail the market anyway and some subject areas might be squeezed out altogether, he said.

The conference was rounded off on a cautionary note by Mr Goff who reminded representatives that over 50 per cent of what students bought was fiction.

"We've been talking about degree factories and I suggest that this is because we are not reading. We are reading reports and all the things we have to for our jobs, but not many of us are using words, feeling, learning, savouring words in the way we should."

More attention should be paid to this aspect if universities were not going to turn out two-dimensional students, with or without having read the right books, he said.

"Despite the very real fears we have over money, books are incredibly cheap. One can get a copy of the *Odyssey* for 50 pence, the whole of *War and Peace* for £2 and a book of quotations for £1, and for that you haven't even bought a bottle of whisky.

"It is our duty as lecturers, librarians, booksellers and publishers, not just to talk of provision, but actively to encourage the student to use that provision, and to exploit, right across the spectrum, our currency of interchange and information—the book."

Frances Gibb

Amid the Gothic splendour of the Royal Holloway College, Egham, the tensions and different interests which divide the various groups were worked out in discussions and informal social mixing.

From the publishers' side came all the signs of battening down the hatches for several years of commercial storms, heavily reduced publishing schedules and the squeeze of matching cash flows and costs. But they remained cheerful and kept up the light-hearted banter with their traditional foes—the booksellers.

The librarians were flexing their muscles. They still consider themselves misunderstood by their colleagues in university and college academic staffs, but realize their key role in the future.

The booksellers bewailed their problems and expressed their unease about too much attention being paid to special groups. Mr John Welch, managing director of Heffers in Cambridge, said they did not sell books to institutions or to students but to people.

The students wanted higher grants. The academics hung their heads in shame at the charges levelled by booksellers, librarians and publishers alike at their tardiness, their avarice when it came to free copies of books and their insouciance about supply.

Publishers have lost their spirit of adventure

The middle section of the conference featured speakers representing three of the main interest groups involved in university books, the students, publishers and booksellers.

One of the key themes was struck by Mr Brian Southam, representing the publishers, when he described likely developments in the book market in coming years.

The freedom of a lecturer to teach, he said, was ultimately based on his having the literature readily available. Economic problems were likely to weed out up to half all the new books published by 1976 and this would strike directly at the lecturer's freedom. The quality of university and college education was likely to be diminished by the loss of the variety and choice of books.

Mr Southam, who acts as editorial director for Routledge and Kegan Paul but has taught at Westfield College, London University, emphasized he was making no plea for publishing to be some kind of social service. It was a commercial activity and publishers had to weather the storms of inflation and cash-flow drought through their own good management.

Few publishers saw the solution to their difficulties in state aid, although grants should be raised to a level which would allow students to buy the full complement of books they needed.

Mr Southam described how as an editor for Routledge he had to keep up with manifold changes in education: in numbers, institutions and subjects. In recent years publishing had had to take account of the new polytechnic degrees, the Open University "revolution" and the new philosophies of teacher training.

But this picture of "lively vividness" in education was flawed, he said. It was a minor tragedy that in 1975 publishers could no longer respond to new academic developments. Because higher education was no longer expanding the mood of optimism had gone: publishers had lost their spirit of adventure as each book for a limited and static market became much more of a commercial gamble.

There was dissension in the discussion that followed Mr Southam's talk. Some of the booksellers and some young publishers felt that in the "boom" years of academic publishing in the late 1960s there had been an unwarranted proliferation of titles. In a short time all the knowledge they missed during three years. Some of these firms charged high fees and left the student utterly confused and unable to read normally let alone at high speed.

During the day discussion had focused on a number of topics including the status of second hand book sales. The publishers resented lost revenue but favoured any mechanism that encouraged book reading and use in the long run. Even the booksellers did not seem upset at student enterprise in this field.

But his main theme was the improvement of communication between the academic who recommended books to students and the bookseller who faced the student often with little or no warning that a book had been put on a reading list and so would be in great demand.

The academics present pleaded guilty to the charges and agreed with Mr Clow's system, operating from the university bookshop run by his company at St Andrews, of sending out "brutally worded" reminders to academics who had not notified the shop of their lists.

In the discussion following Mr Clow's talk several booksellers discounted the commonly held view that prices had put students off buying books. Mr Clow said there seemed to be little resistance to price increases if the book was set then the students would buy it.

He introduced a recent circular from the Booksellers' Association to academics emphasizing the value of close cooperation between all concerned with students and books. It said that many sales were permanently lost through bad communication because teaching staff simply did not tell booksellers what was wanted yet expected students to be able to buy books as soon as they were recommended.

Students seemed to be largely passive agents in all this. However, on their behalf, Mr John Kirk from Edinburgh University argued that the whole system of book distribution ought to be changed in order to cut down delays in getting books to the shops. Publishers said his idea for regional distribution centres was impracticable.

The students had the opportunity to make their interests known in the following session, chaired by Mr John Randall, retiring president of the National Union of Students.

Mr Randall spoke of the financial plight of students. He said one bookseller had asked him why, since the bulk of their grant went on rent with little left for books, they refused to pay rent rises. He replied that they had refused and vice-chancellors were taking them to court for it.

In his conclusion Mr Randall interjected a warning against "rogue" rapid reading firms who seduced students near their final examinations with offers of cheap cram courses. The sessions which heard the talk by Mr Robert Clow, managing director of John Smith Booksellers Ltd., Glasgow, about the kind of issues facing the booksellers also heard one of the clearest expressions of differences between the groups present. Several members of the college and university bookseller group of the Booksellers Association complained that publishers were lax in sending out books that had been ordered, often by-passed the booksellers by dealing direct with the individual academic, and in some ways did not make their lives easier.

Mr Clow talked of "errors in communica-

David Walker

UNDERGRADUATES AND BOOKS

Peter Mann gives the lecturer's point of view





'There seems no connection between failing examinations and failing to obtain books'

In my book on *Students and Books* I used a communication network which linked together four sets of people—lecturers, students, librarians and booksellers. This network alone gives 12 channels of communication. If, as I probably should have done in the first place, I had included the publishers as a group (instead of sheltering them behind the booksellers as I did) then we would have had 20 possible lines of communication.

Sociologists are notorious for using an awful lot of meaningless words these days and I would not want to be guilty of starting us off on an interchange of words which obscure rather than clarify. So, I must make it clear at the onset what it is that we are supposed to be communicating about.

As I see it, we are concerned with the function of the university as an educational (rather than research) institution in these discussions. In higher education we teach from a research based syllabus rather than any nationally laid-down curriculum. University lecturers are people who are expected to push back the frontiers of knowledge and, while they are doing this, they are expected to take a new generation of learners along with them.

This combination of research and teaching is what makes universities unique. No research—no university level teaching. The charter of the University of Leeds calls for "the advancement and dissemination of knowledge". Both are essential.

Bruce Truscot (whose book *Red Brick University* is as relevant today as it was when first published in 1943) said that "the whole art of educating the undergraduate, in the deeper sense, must be based upon instilling in him the true idea of the nature of a university". Truscot spelled this out in detail, and I have selected some points which I think are very pertinent to our discussions today.

- In many schools boys and girls are spoon-fed. The undergraduate, however must be made to realize that the organization of his work and the responsibility for covering the syllabus are his and his alone. Lecturers are there to help him but not to usurp his own functions. In universities young people are given the opportunity to learn—which is different from simply being taught.
- At school there is a pathetic confidence, often entirely misplaced, in the written word. At university this confidence is broken by a demonstration of the unreliability of books as one author argues against the other.
- At school there is a tendency to believe in a right and a wrong to everything. At university the critical faculty must be developed by a refusal to dogmatize or to accept dogmatic judgments. The undergraduate must learn continuously to question and to consider both sides of every debatable problem. Those who fail to attain this approach are described by Truscot as "having received university instruction but failed to get a university education".
- At school, teachers often have to prepare lessons for a wide range of children using the works of standard authorities; school teachers frequently have to teach on matters to which they have not devoted any sustained or original thought. At university the lecturer is always questioning the traditional explanation and seeking new explanations, so the undergraduate, following in his path, will only satisfy his lecturer by learning to think for himself—albeit at a lower level, but nevertheless developing his own judgment.
- And most important of all, the undergraduate comes to understand that the lecturer is a learner, in some ways a considerably higher, even than himself, but a learner nevertheless. It is here that true university teaching expresses itself and it is in this context that research "fertilizes" the teaching, so that no course of instruction is ever quite the same one year to another and it is here that originality of thought developed by research is "passed on" (though it cannot be taught) to the student.

I have dwelt on Truscot's thoughts for a while because they seem to me to be absolutely fundamental to what we are considering this weekend. Librarians, publishers and booksellers will be delighted to hear that in the book to which I have referred Truscot intimately went on to say that "the stimulation of thought in undergraduates depends in great measure upon the university library", and ended the chapter with a plea that the undergraduate should build up his own personal library.

The whole point is really that university education is based on an intricate relationship between different forms of instruction. In addition to the verbal communication of the lecture and the seminar and tutorial, the written communication of the book; the one must not forget the importance of the practical doing of so many subjects such as chemistry, physics, the various technologies and, of course, dentistry and medicine.

This stage of the analysis leads me now to consider what I feel is essential to an appreciation of students' reading needs—that is the form which the subject itself takes. In my book I referred to "doing" subjects and "reading" subjects. The university is a mixture of all sorts of intellectual disciplines—indeed that is its fascination and much of its charm. I would not want to work in an educational institution where there were no other subjects than the social sciences. I like to have colleagues in science, technology, medicine and so on around me—if only to reassure myself that there are normal people in higher education.

The university, by its very name, is a place of variety and I often feel that studies of students overlook their differences and assume too great a similarity. At the level of research into the needs of postgraduate research workers subject differences are now much more recognized, but in the fewer studies of undergraduate user needs students are often lumped together somewhat indiscriminately.



It is a main part of my thesis that subject differences must be recognized if student information needs are to be met satisfactorily. So let us look for a moment at some points of difference. In a paper on "The Role of the Library as a Teaching Resource" given by Professor J. Black at the Office for Scientific and Technical Information workshop in Bath in 1973, he argued that learning at a lecture is a fairly passive affair and as we use personal activities such as laboratory experiments, design, projects, essays, reports, constructions—any challenge to individual effort.

But, Professor Black argued, there is only value to be gained from these activities if they are criticized or discussed by the tutor, supervisor or instructor and his comments "phased to the knowledge and ability of the learner". In "systems" parlance this feedback signal enables the learner to assess where he is and how he is getting on and thus to take any necessary action to get back on course. The faster the feedback signal the more useful it will be: continuous weekly correction is obviously more effective to the learner than a major correction only at the end of a term.

I find this a very interesting analysis, working as I do in a sociology department where second year examinations were abolished several years ago and where in many courses students are now required to write only one long essay per year. Clearly the feedback is practically nil.

Now if education is to be a continuous process of the student trying out his ideas, getting things wrong, being corrected and going on to do better he needs quite a lot of guidance. I suppose some of you here today may be thinking back to your days at Oxford or Cambridge when you had your weekly meetings with your tutors—and little did you think by yourselves as being in a systems feedback relationship or whatever.

My own researches indicate that technology students spend a great deal of time obtaining feedback in laboratories, have heavy demands made upon them to "do" their subjects and have relatively little time for individual work in the library. For example, 29 per cent of students in the faculty of materials technology at Sheffield said they spent no time in the university libraries per week, 25 per cent used no library for private study, 28 per cent did not borrow from a library and 37 per cent had no books on loan at the time of my survey. But 40 per cent were spending 25 hours a week or more in classes.

This picture of the technologist is in complete contrast to the arts student who has no practical or laboratory classes and who spends more hours in the library, does borrow books and does express a need for more multiple copies and more books on reserve.

These comparisons only go to show that students differ greatly in their courses and that these courses place greatly differing demands upon them. I very much liked the comment made by Geoffrey Ford of Lancaster University when he said that: "When we find that engineers read less than pure scientists it is possible to postulate a number of explanations; such as: engineers cannot read; engineers don't need to read: engineers use more informal channels: librarians provide the wrong kind of service."

Ford concludes (and I tend to agree with him): "We know practically nothing about the why-how-when-and-where of book use." It is funny how librarians seem so ready to take upon themselves the responsibility for failing to meet the information needs of the students. It is extraordinary how rarely in their writings one finds them criticising the lecturers for failing to do enough about the information needs of students. And yet, surely, the whole business *starts* with the lecturer, doesn't it?

I can't really believe that library schools run courses in extra-sensory perception, mind-reading or crystal ball gazing. Careful as I must be, having married a university librarian and living next door to a professor of librarianship, I still must maintain that the librarians seem curiously reluctant to speak out about the lack of information and co-operation afforded them by the lecturers.

As a sociologist, of course, I do fully understand this. It is all really rather simple and can be summed up as the inferiority situation in which librarians are placed and which they continue to accept. What university department has the lowest proportion of senior posts?—the library. Who were told to stop spending money first when the economy axe fell last year?—the library staff. Who have such poor representation on faculty boards?—the library staff.

Before you start throwing things, allow me to provoke a little further. The weakness of the librarian's position derives from the belief that practically every lecturer holds that he could, himself run the library if needs be, but librarians—whilst quite good at keeping the books tidy on the shelves—do not really know much about the subjects themselves; after all, they are not researchers.

Let us get down to what I think is the heart of the matter—academics, the lecturers, are individuals who operate under a minimum of authority. But if we, in this country, believe in the lecturer's freedom to design his own syllabus, teach in his own way and prescribe his own reading lists, does it necessarily mean that we (and here I mean *you*—librarians, booksellers, publishers and yes, even the students) that you should necessarily sit quietly when you know that things are not being done which ought to be done and there is no good in the lecturer?

I have said before, and I repeat it now, that the failure rate at Sheffield University, where 15 per cent of students do not use a library for private study, where 16 per cent do not borrow from a library, and where 35 per cent had no book on loan late in the Lent term of 1972—this is not a university with a high failure rate in examinations. As far as I can ascertain the failure rate in the final examinations in 1974 was 1.3 per cent; 21 failures to just over 1,600 successes. I believe that students spend, on average, £16.80 a year on books because they don't need to spend any more. There is no apparent connexion between failure in examinations and a lack of borrowing or purchase of books.

Now then, how come this situation? I think there are two explanations. First, there are doing subjects where only very restricted use of books is necessary. Mathematics students books if they got good lecture notes. An accountancy first year student said happily he could not comment on the local bookshops as he did not need to buy books.

Secondly, there are the subjects where there is less doing and, supposedly, a lot more reading. In some cases, such as law, it seemed to me that guidance was very clear and students both brought and borrowed because they knew what they were doing. But in some other subjects such as philosophy, politics, sociology and (to a certain extent) history, I got the impression that students were frequently bewildered by the long reading lists given to them, the lack of priorities in the lists, the lack of advice on what to borrow, little or no advice on what to buy and, generally speaking, the lack of clarity in what their studies were supposed to encompass.

But even a failure rate of 11 compared to just over 500 passes (which is over 2 per cent) in the faculties of arts and social sciences to my empirical mind suggests that you can get an arts or social science degree on virtually lecture notes alone.

So far the cool objective approach to the factual situation. But do we want to leave it at that? I hope not, because if we cannot improve on this I think we might as well go over to an Open University system when, as "A Survey of Student Opinion on Use of the Literature and Libraries" says (and I quote): "Most OU courses do not require students to read beyond the printed course units and set books, so students need not acquire one of the essential skills of independent study—the ability to use the literature and libraries systematically."

What I think we should consider is (a) improving our lines of communication and (b) improving the motivation to learn of the students. Under (a) I think we need more exercise of authority from heads of departments (perhaps even by edicts from senate) about coordinating reading lists, informing libraries and informing bookshops.

Three years ago we started a "bookshop correspondent scheme" at Sheffield, backed by senate, to try to improve information to the bookshops. In those three years it has had only 50 per cent cooperation and what sanctions are there for non-cooperation? None—so far. The Deputy Librarian (who is here today) will admit that he only gets a small minority of reading lists from departments. I think he ought to be able to threaten people who do not send them to him.

Under (b) I am reminded of what Maurice Line wrote on "Educating the Library User": "We know from various studies that people will make only a minimal effort to obtain information." Line says this can only be changed by "increasing their motivation".

Now instruction in simple things like using catalogues and finding information from the catalogues on the shelves is still not very satisfactorily done in many universities but sexual subject information could be done at second-year-and-above level is almost unheard of in many departments. It is at this level of subject instruction that I think motivation could come.

I believe strongly that students should receive subject instruction on the use of information sources as an integral part of their degree courses. Ideally I should learn in first year, but in many courses where first year is spent covering several subjects very thinly perhaps second year is more realistic.

I believe that the librarians should take on more of a positive role, even working with lecturers at the syllabus formation stage to help them in suggesting information sources and then providing them. This would mean more subject-librarians and more expenditure on library resources, but I think this would be better for the universities even if it necessitated cutting down on some lectureships.

At present, it seems to me, many university students are not learning in the way Bruce Truscot believed in. With the doubling of student numbers in recent years I do believe the overall quality of university education has declined—and I think undergraduates get less from their education than they used to do.

Educationalists are always talking about getting people involved in their studies. It is my belief that if lecturers and librarians could work together more in the development of courses in which students were forever seeking information for themselves then the courses would be improved by a greater feedback efficiency, use of the library would be improved, and I am certain that students would see not only the desirability of buying books but would even get to the stage where they actually wanted to buy books.

Dr Mann is a reader in sociology, University

UNDERGRADUATES AND BOOKS

Norman Higham opens up on what librarians believe





'We must be told what students need and we must be told in good time'

I was tempted to open this talk with some Proverbs of Hell, but I am afraid that such a literary audience would compare them unfavourably with Blake's finer originals. Instead, I will open with Higham's Contradictions. They are the same statements but at least I shall have avoided odious comparisons.

- Publishers don't publish the right books, and charge too much for them.
- Booksellers don't sell the right books, and take too long getting them.
- Lecturers don't recommend the right books, and do it too late.
- Librarians don't buy the right books, and then hide them.
- Students don't read the right books, and want them immediately.

To these five may (or may not) be added a sixth: The government doesn't give our institutions enough money, and calls them ineffective.

But this is not so much a contradiction, more a way of life.

I should like to follow these malicious untruths with what you may call an idealized picture of the library at work, with a little help from our friends.

The library, using the advice of departments and its own knowledge of the literature, acquires material basic to the general study of the range of subjects taught in the institution. Lecturers, in devising a syllabus will note references to books, articles and related material which will assist the student in his studies. They will compile lists of these books, and where they are a long-term necessity to students may advise students to purchase their own copies. Having compiled these lists well before the session begins, they will send copies to the library, and, where they think desirable, will recommend multiple copies.

The library will compare these lists with its holdings, acquire those it does not have and order extra copies where it seems necessary. It will deploy its various loan categories to ensure the optimum availability of those copies. As students use the books, the library will apply the information it gains from the demands placed on it, to order more copies, or change periods of loan, so as to correct its first estimate of appropriate availability of required books.

Any feedback from students, either directly or through lecturers, will assist the further improvement of availability both for immediate needs and for future sessions. The system can be seen to be blindingly simple, the student will be satisfied, and the educational target will have been achieved.

Where then is the problem? One hardly knows where to begin. We could select the publishers first, on more than one ground. There are subjects where a good quality manual, covering the subject in the way the lecturer teaches, seems to be urgently needed, but it does not appear. Publishers may have their own views of this phenomenon, but let us leave the problem with them, the originators of the printed, as opposed to the written, word.

Lecturers in this situation are forced to include a number of books in their list, none of which is satisfactory, and not all of which can be read by the students in the time available. Lacking confidence in the books himself, the lecturer will be unable to advise either the student or the library, and the latter must acquire all and attempt to predict the demand on each. Through some alchemy, one of these books may be transmuted by rumour into the key to academic success, since it is well known by rumour that the lecturer based his course on it alone. Unlucky is the library that responds to demands this session, and find six copies unused the following session, by which time rumour has tipped another hot favourite.

But our attack is straying off target. Back to the publisher and that short printing run which he was afraid to exceed, thereby ensuring that the first impression runs out before orders are satisfied and a course is left hanging without enough texts to support it, and the library is accused of falling down on its supply job yet again. By the time the next impression appears, its price has increased and the library's (or the student's) budget has taken another blow.

But let the publisher be warned; budgets are not keeping up with book prices. Libraries are not the captive market they may once have been; they are buying fewer books and they must therefore be more selective, and look for the higher quality at the right price, like every other shopper.

It is when libraries do their shopping that they encounter that other element in the problem. The bookseller is the man who in our opening picture of the operating system supplies in good time the books that we order in good time. He is the man whose shelves are stocked with students' texts when they are doing their shopping. He is also the man who is a few shops up and down this slowly pushes a library's orders through an antiquated system of quill pen operations before they inch their way to a publisher, hopefully the right one.

He is the man who reports, only in response to a reminder, that a book is out of print at the publisher's, who is upset by a further reminder three months later on the grounds that he has already reported, and who is grossly upset to receive a cancellation from a library which found the book in print and in stock elsewhere and bought it. He will embarrass us from time to time by producing for a lecturer on demand a book we ordered months ago and which that lecturer brandishes under our inefficient noses.

That lecturer is a study in himself. He is a busy man, despite appearances. He has no time to "do the library's job for it". He does not provide book lists before or even at the beginning of the session, because, he says, his references flow meaningfully out of his (no doubt inspiring) lectures, or because, he means, he is only keeping one lecture ahead of his students.

His references indeed flow, wet as they are, in throwaway asides such as "you will find this well illustrated by Schackenheimer", "see the relevant chapters in Smith's manual". Libraries keep out of mischief sorting out such references and your local bookseller's assistant, who has enough trouble distinguishing Michael from Hammond Innes, is thrown into confusion. The perplexed student, grappling with new concepts, breathless with admiration at the brilliance of the lecturer, and therefore inclined to regard him as the authority, naturally blames the bookseller and the librarian for their bureaucratic inefficiency.

Among the enemies ranged against the student's progress, one of the most powerful, because the most energetic, is the student himself. Two weeks behind with his essay, he will deploy its various loan categories to ensure the optimum availability of those copies. As students use the books, the library will apply the information it gains from the demands placed on it, to order more copies, or change periods of loan, so as to correct its first estimate of appropriate availability of required books.

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Unfortunately, this is a cumbersome task, and it is one of the strongest arguments in favour of computer-based issue systems that such observations can be made as a by-product of machine operations.

The mere provision of multiple copies wastes resources, especially in times of financial stringency. The mere restriction on loan periods is unproductive and negates the value of the library's holdings; therefore it too is wasteful of resources. A library uses only a small percentage of an institution's expenditure; inadequate financial provision is an extreme form of false economy.

I am beginning to hope that I have got across the message of our need to rely on the lecturer for information. I have not dealt enough with the difficulties of acquisition. Even if we have recommendations in good time, all is not solved. To order books simply on the basis of these recommendations would result in our receiving too many copies of books already held by the library.

You may think that lecturers, expert in a subject, would know the library's holdings in that subject, but that is not always so, and there may even be good reasons why they inadvertently recommend a book already held. We must therefore check our catalogue



whether we believe they have already done so or not, and we must check our on-order file since they cannot be relied upon (though they *should* have remembered when they ordered the same book last week).

Need we check the order bibliographically? Many a bookseller will think of the state of some of our orders and give a resounding affirmative. We however use our discretion. If lecturers always gave their source of information with their recommendations we would have more reliance on their details. But book suggestions must be turned into book orders as quickly as possible and we must balance the probabilities both in our assessment of the quality of book suggestions and of the ability (and tolerance) of booksellers.

An educational institution in a city may have a choice of local booksellers, and for the sake of encouraging these establishments to maintain a good service for the city, and sometimes for the sake of speed of delivery, it is good to buy locally. It is also good to protect one's eggs and spread a library's orders reasonably widely. A local bookseller can deliver quickly, and avoid crippling postal charges to one or other party, but can do so only for books he has in stock. If he must order from publishers he is not likely to be better placed than a large national bookseller, who will in any case carry a larger stock. So we order both locally and nationally, in both cases distributing our custom.

Not only librarians but publishers and booksellers also, have lessons to learn from the recent unfortunate caning of Abel. We have however every confidence in the future of the distinguished booksellers represented here today, but you are all so good that we do not like to exclude any of you from our custom. All of you, nevertheless, take time to obtain books from publishers, and some of you take longer than others, and all of you

Where there is fault I leave you to explain it, but you may expect us to monitor bookseller-performance as carefully as we do book-performance, since we have impatient users at our elbow, and we are tempted to select where we get results.

Many foreign books must be bound, causing several week's delay, since binders are only happy when they can see stocks of binding waiting to be done; they are thus assured of work next month. And since a library without an adequate author and subject catalogue is like a gigantic second-hand bookstall, great fun for treasure-hunting but useless for relevant information retrieval, we must devote considerable time and resources to cataloguing and classification. Because we know just *how* considerable, we are all of us particularly interested in centralized cataloguing, and cataloguing in publication. This must be the next major breakthrough in library operations.

It is also the key to exploiting our own resources fully. The optimum provision of books optimally available is a useless achievement if the books remain unread. The motivation of students to read is something which lecturers can do much to instil, especially since they can use the threat of examination failure to help them. Though to do this they must never recommend students to read Peter Mann's book, for they might discover that examination success bears no direct relationship in intensive use of libraries.

But assuming that the reading of books is at least a desirable, at best an essential, and in any case a worthwhile and even exciting part of learning in an institution of higher education, how are we to ensure that students have the fullest opportunity to make the most of the expensive provision we have made? How, to return to this constant refrain, do we maximize our resources? We must ensure that students can make the best use of libraries and the literature available.

Above all, and one that demands nobody's time but our own, is a clear and attractive guiding in the library itself. A library should be simpler to navigate than the M1 and far simpler than the Thames (though it should be as interesting as the latter and far more interesting than the former).

But this is not enough, for it is only map-reading. The student must be helped to learn what the library and its contents can offer, and, beyond that, what the literature, wherever it is housed, whether here or in other libraries, can offer.

But in order for librarians to pass on their knowledge to students they must be given time to do so, and there must be enough of them available to do so. A 15-minute guided tour of the library is inadequate.

There is obviously a serious problem in finding course time and staff time to do the job properly since it is best done in a very small group seminar situation. One is passing on skills at however elementary a level and this should not be done in a lecture theatre, but shoulder to shoulder. And students will be more receptive when they understand what problems the instruction is intended to solve. They should therefore have spent some time using the library and meeting these problems.

Will the lecturers give up teaching periods, in the middle of term when a course is well under way, to let their students become more effective readers and information seekers? Only the librarians and staff can tell us how seriously this would affect their ability to cover the ground of their courses and how much it matters that they should.

I have not discussed enough the question of finance. This is the wrong audience to harangue about book funds; you have no money to offer us. But when we are talking about undergraduate needs it is important for all concerned to realize that the library allocation should not just be thought of in terms of some books and a basic service. We must allocate our funds to acquire what is needed and to see that what is needed is utilized.

If the present economic situation is such that we should be thinking only of survival, let us at least ensure that the needs of the library in fulfilling its central role are spelt out loud and clear, so that when the real cuts come, the survival of an effective library service is a top priority.

To the briefest summing up. If libraries are to give of their best:—

- publishers must provide good, relevant books at reasonable prices;
- lecturers must put effort into cooperating with the library;
- booksellers must stock intelligently and supply promptly;
- students must learn to use the library and organize their reading.

Norman Higham is the librarian, University of Bristol, and chairman of the university

NOTICE BOARD

Chairs

Mr D. J. Gifford, director of the Centre for Latin-American Linguistic Studies, University of St Andrews, has been appointed to a personal chair in Spanish from October 1.

Dr J. B. Dawson, reader in the department of geology, University of St Andrews, has been promoted to a personal chair in petrology from October 1.

Mr R. J. Adam, senior lecturer in Social History, University of St Andrews, has been promoted to a personal chair from October 1.

Dr P. E. Secker, director of industrial development unit, school of electronic engineering science, University College of North Wales, has been promoted to the newly established chair of industrial electronics within the school.

On his retirement from the Royal College of Art, Sir Misha Black has been appointed emeritus professor of industrial design and has also been reappointed as chairman of the Unesco cultural advisory committee to the United Kingdom Commission.

Dr Colin Lacey, reader in the sociology of education at Sussex University, has been appointed to the joint post of research and development consultant to the Schools Council (for five years) and professor of education at Sussex University from September 1.

Professor Jack Wrigley, part-time director of studies and research adviser at the Schools Council is returning to Reading University as professor of education from September 1.

Professor John Lyons, professor of general linguistics, University of Edinburgh, has been appointed to the newly established chair of linguistics, Sussex University.

Mr Norbert Lynton, formerly director of exhibitions and deputy of the art department, Arts Council of Great Britain, has been appointed to the chair of history and theory of art at Sussex University from October. He will succeed Professor Quentin Bell, who is retiring.

Awards

The Chetwell-Simon Memorial Lectureship 1975-76 has been awarded to Professor F. R. S. Abdus Salam, professor of theoretical physics at Imperial College, London.

Royal Society Commonwealth Foundation Bursaries: Dr C. B. S. Rajput, department of horticulture, Bahamas Hindu University, India; Dr A. K. Sawhney, department of microbiology, Jwaharlal Nehru Agricultural University, India; Dr G. L. Walcott, department of chemistry, University of Guyana.

Royal Society Nuffield Foundation Bursaries: Dr S. S. Bhojwani, Department of Botany, University of Delhi, India; A. M. Banus, department of botany, Rajshahi University, Bangladesh; Professor C. J. Farquhar, department of civil engineering, university of Waterloo, Canada; Professor B. G. Firkin, department of medicine, Monash University Medical School, Melbourne, Australia; Dr C. G. Freeman, department of chemistry, University of Canterbury, New Zealand; Dr R. J. Gilkes, department of soil science and plant nutrition, University of Western Australia; Dr R. D. Graham, department of agronomy, Waite Agricultural Research Institute, South Australia; Dr K. I. Handoo, department of chemistry, University of Saugar, India; Dr B. R. Henry, department of chemistry, University of Manitoba, Canada; Dr J. Kulmakieff, department of microbiology, University of Otago, New Zealand; Dr C. J. Leaver, department of botany, University of Edinburgh; Dr A. A. Mullerd, division of Plant Industry, Canberra, Australia; Dr H. K. Tallgoola, department of botany, Makere University, Uganda; Dr J. T. Temple, department of geology, Birkbeck College, University of London; Dr J. Warren Wilson, Glasshouse Crops Research Institute, Littlehampton, Sussex.

Honorary degrees

Strathclyde

The following have been awarded honorary degrees:

DSC: Sir Alan Howard Cottrell, Master of Jesus College, Cambridge University; Professor Ernst Otto Fischer, professor and head of the Inorganic Chemical Institute of the Technical University of Munich; Professor Douglas S. Jones, Ivory professor of mathematics, Dundee University; Professor Basil J. Mason, director-general of the Meteorological Office.

LLD: Sir William Stevenson Gray, Lord Provost of Glasgow; Tan Sri Hamzah Sendut, vice-chancellor of the University Sains Malaysia; Sir Iain Maxwell Stewart, chairman of Hall-Thermotank Ltd.

Edinburgh

MD: Professor G. F. Marrian, professor of chemistry at the University of Edinburgh.

Warwick

DLitt: Mr B. Britten; Mr M. Cowley; Professor J. R. N. Stone.

DSc: Professor H. L. Kornberg.

MA: Mr G. Hodgkinson.

Appointments

Universities

Oxford

Visiting Professor: Rudolph A. Marcus (theoretical chemistry); Gerald Averay Wainwright research fellow: Mrs D. V. Kirkbride-Hellbeck.

Salford

Lecturers: B. C. Dangerfield (business and administration); I. M. Richards, Dr G. L. Anderson (economics and geography).

Warwick

Associate professors: Mr D. J. Enright (English); Mr R. Thompson (Molecular Sciences). Visiting senior lecturer: Professor J. R. Conlin (Centre for the Study of Social History). Senior lecturers: Dr N. J. Dimmock (biological sciences); Mr A. R. Roe (economics); Dr W. W. Dunnberre and Dr M. J. A. Smith (history); Dr D. Mervin (physics); Dr W. E. Paterson (politics).

General

Design Council: Mr David Barnett has been appointed to the post of head of industrial design. He succeeds Mr Don Johnston, who has retired.

Recent publications

A Guide to Study by Edgar Baker is the latest booklet from the British Association for Commercial and Industrial Education. It summarises for the prospective and present student the main guidelines for an efficient method of study. Available from the British Association for Commercial and Industrial Education, 16 Park Crescent, London WIN 4AP, 65p members; £1.30 non-members.

* * *

Educational Statistical Yearbook, Volume II, Country Tables published by OECD, 2 rue Andre Pascal, 75775 Paris, Cedex 16. The yearbook covers data during the years 1960-1972 on pupils; teachers; certificates, degrees, diplomas awarded; new entrants to higher education; distribution of population in full-time education by level and ages. The data is supplemented with notes on sources and methodology for each member country. (Available from HMSO bookshops, £5.00.

Forthcoming events

An exhibition based on the book *Urobarus*, by Keith White-Hunt, will be held at the University of Bradford from July 14-20. The exhibition will consist largely of works of graphic art and paintings by David Lott. Further details from Mr K. White-Hunt, c/o The Secretary, School of Studies in Industrial Technology and Management, University of Bradford, Bradford, Yorkshire, BD7 1DP.

* * *

Herbert Ponting: Photographer of the Antarctic showing at Kingston Upon Thames Art Gallery, Surrey, from July 12-August 12, 1975.
Photographs by Sir Cecil Beaton showing at The Art Gallery, St Helens, Lancashire, from July 5-August 5, 1975.

* * *

A documentary film *Brazil Nut Bust* to be presented by Michael Austin will be held on July 31 at 7.00 pm at the Institute of Contemporary Arts, Nash House, The Mall, London SW1. The film shows the plight of the poor white shanty dwellers and the Brazilian Government's attempt to move them into the interior. Fee: 35p public; 25p ICA and Survival International and RAI members.

* * *

Jonathan Miller will be the main speaker at the second "Language of Medicine" seminar organized by the School of Languages at the Polytechnic of Central London, 115 New Cavendish Street, London W1, on Tuesday July 15. The purpose of the seminar will be to determine and discuss common ground for research and cooperation between experts from the two disciplines of language and medicine. Programme details and enrolment forms from: Rossanna Pocaterra, The Short Course Unit, Polytechnic of Central London, 35 Marylebone Road, London NW1.

* * *

A seminar on medieval medicine, literature and philosophy in Europe will be held at the Polytechnic of Central London, School of Languages, 115 New Cavendish Street, London W1, on Wednesday July 16. Guest speakers at the seminar come from Harvard, the Warburg Institute and the University of Kent. Programme details and enrolment forms from: Rossanna Pocaterra, The Short Course Unit, Polytechnic of Central London, 35 Marylebone Road, London NW1.

* * *

The Institute of Mathematics and its Applications is organizing a symposium on "Mathematics from Primary School to A-Level", on July 16 at Chelsea College, University of London, Manresa Road, London SW3 6LX. Details and application forms: The Secretary and Registrar, Institute of Mathematics and its Applications, Maitland House, Warrior Square, Southend on Sea, Essex SS1 2JY.

"Multi dimensional scaling" a one day conference organized by Dr A. P. M. Coxon and funded by the SSRC will be held on July 22 at the University of Essex. All interested please contact Jim Ali, Department of Government, University of Essex, Wivenhoe Park, Colchester CO4 3SQ.

* * *

The Centre for Extension Studies at Loughborough University is holding a one week course on simulation and gaming in education from 20-26 July as part of its Summer programme. The course is intended for teachers of social subjects in further and higher education, and will cover the practical problems of designing, adapting and operating simulation exercises and educational games. The course fee is £50 inclusive of residence. Full details from: The Centre for Extension Studies, University of Technology, Loughborough, Leicestershire, LE11 3TU.

* * *

"Teaching and Learning in Higher Education", an intensive course organized by the Institute of Educational Technology of the University of Surrey, will be held there from September 12 to 19. The numbers will be restricted to 32 from the sciences and 16 from the humanities and social sciences. The aim of the course is to present participants with a range of teaching techniques and to discuss problems in teaching and learning in higher education. Course Organizer: Professor L. R. B. Elton. Fee: £90, non-residential, £66. Application should be made early and forms are available from Mrs Bridget Hare, Course Administrator, Institute for Educational Technology, Surrey University, Guildford, Surrey.

* * *

"The Role of Education Studies in New Organisational Structures" a conference/workshop organized jointly by the Standing Conference on Studies in Education and the Association of Teachers in Colleges and Departments of Education (education section) will be held at Westhill College, Birmingham from September 16-19. The workshop which follows up last year's conference at Chichester is designed to help those responsible for the course development of education studies during a period of rapid change in higher education. Speakers will include Miss Joan Skinner, director designate of the University of Cambridge Institute of Education. Fee: £18. Further details from Mr John Pearce, Madeley College of Education, Madeley, nr Crewe, Cheshire.

Noticeboard is compiled by Patricia Santinelli and Myrna Monsurate

Open University programmes July 12 to 18

Saturday July 12

BBC 2

7.40 Physiques of cells and organisms: Final revision (AS351: prog 16).
8.05 Arts foundation course: Romantic and realist visions (A100: prog 27).
8.30 Mathematics foundation course: Probability (MST121: prog 10).
8.55 Technology foundation course: Design for engineers (T100: prog 11).
9.20 Science foundation course: Chemistry (S100: prog 24).
9.45 Microeconomics: The corporate economy (D302: prog 11).
10.10 Renaissance Arts: Information, Entropy and Art (A323: prog 11).
10.35 Topics in pure mathematics: Turing machines (MST221: prog 11).
11.00 Topics in pure mathematics: Convergence and normed spaces: Convergence in (M351: prog 05).
11.25 Arts foundation course: Synthesis of carbon compounds: Biosynthesis of proteins (S251: prog 11).
11.50 The Earth's physical features: Ideas for the future (S356: prog 11).
12.15 Statistics: An interdisciplinary approach: Time series: Fitting a model (MDT241: prog 07).
12.40 Public administration: Policy for the under-fives: Oxford and local government reorganization (D321: prog 10).
13.05 Introduction to psychology: Personality and learning (DS281: prog 11).
13.30 Introduction to technology: The manufacture of silicon solar cells (TS251: prog 11).

RADIO 3 (VHF)

5.30 Course Analysis: The calculus of relations (A305: prog 14).
6.40 Public administration: Policy making, planning and government (D321: prog 10).
7.05 Elements of educational change: An empirical approach to teaching science for practical (TS241: prog 08).
7.30 Introduction to technology: Electronics and computers (T100: prog 11).
7.45 Arts foundation course: Instruments and music (A100: prog 10).

RADIO 4 (VHF)

Additional programmes for North Scotland and parts of Wales

6.05 Open Forum.
6.20 Physiques of cells and organisms: Cell organization and growth (AS351: prog 16).
6.45 Science foundation course: Drugs (S100: prog 24).
7.10 Technology foundation course: Vesta's Chariot: Introduction to control (T100: prog 11).
7.30 Mathematics foundation course: Probability (MST121: prog 10).
7.55 Arts foundation course: Synthesis of carbon compounds: Biosynthesis of proteins (S251: prog 11).
8.20 Topics in pure mathematics: Turing machines (MST221: prog 11).
8.45 Statistics: An interdisciplinary approach: Time series: Fitting a model (MDT241: prog 07).
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10.00 Arts foundation course: Instruments and music (A100: prog 10).
10.25 Renaissance Arts: Information, Entropy and Art (A323: prog 11).
10.50 Microeconomics: The corporate economy (D302: prog 11).
11.15 Technology foundation course: Design for engineers (T100: prog 11).
11.40 Open Forum.

RADIO 4 (VHF)

Additional programmes for North Scotland and parts of Wales

7.20 Mathematics foundation course: Probability (MST121: prog 10).
7.45 The handicapped person in the community: Mental handicap (DE353: prog 07).

Radio 3 (VHF)

9.10 The historical perspective: Occupational psychology (DS283: prog 11).
9.35 Physiques of cells and organisms: Cell organization and growth (AS351: prog 16).
10.00 Decision making in British government (D321: prog 10).
10.25 Introduction to technology: Electronics and computers (T100: prog 11).
10.40 Topics in pure mathematics: Turing machines (MST221: prog 11).
11.05 Arts foundation course: Instruments and music (A100: prog 10).
11.30 Science foundation course: Drugs (S100: prog 24).
11.55 Open Forum.

Sunday July 13

BBC 2

7.40 Electromagnetics and electronics: Amplifiers and amplification (TS282: prog 11).
8.05 Principles of chemical processes: Equilibrium, phase and rate (TS120: prog 10).
8.30 Science foundation course: Species and populations (S100: prog 20).
8.55 Open Forum.
9.05 Instrumentation: Flow (T291: prog 07).
9.45 Introduction to engineering: The human factor: Introduction (T101: prog 11).
10.10 Introduction to psychology and politics: Psychological explanations of political behaviour (DS282: prog 11).
10.35 Introduction to psychology: Introductory laboratory course: Text-processing (DS284: prog 11).
11.00 Sociological perspectives: Social class: Work (DE353: prog 07).
11.25 Personality and learning: Learning workshop: Role playing (DS281: prog 11).
11.50 Technology foundation course: Chemical reactors (T100: prog 11).
12.15 Linear mathematics: Numerical solutions of differential equations (A251: prog 11).
12.40 Making sense of society: Starting from high school (D101: prog 11).

RADIO 3 (VHF)

Additional programmes for north Scotland and parts of Wales

6.30 The physiology of cells and organisms: Cell differentiation and birth (AS351: prog 16).
6.55 Decision making in British government (D321: prog 10).
7.20 Introduction to psychology and politics: Psychological explanations of political behaviour (DS282: prog 11).
7.45 Open Forum.

RADIO 4 (VHF)

Additional programmes for North Scotland and parts of Wales

8.10 Mathematics foundation course: Probability (MST121: prog 10).
8.35 Science foundation course: Species and populations (S100: prog 20).
9.00 National income and economic policy: Money supply and employment (D302: prog 11).
9.25 Ecology: Saltmarsh and oil pollution (S365: prog 10).
9.50 Introduction to psychology: Introduction to information processing (DS286: prog 10).
10.20 Open Forum.
10.45 Great Britain 1750-1950: Sources and historiography: Attitudes to social class 1750-1850 (A401: prog 11).

Monday July 14

BBC 2

7.05 Instrumentation: Flow (T291: prog 07).
7.30 Education, economy and politics: Politics, authority and education (E282: prog 10).
8.20 Mathematics foundation course: Constructing an algorithm (M100: prog 10).
9.05 Statistics: An interdisciplinary approach: Time series: Take a sample (MDT241: prog 07).

RADIO 3 (VHF)

Additional programmes for North Scotland and parts of Wales

6.00 History of architecture and design 1890-1930: Gordon Russell and modern British craftsmanship (A362: prog 10).
6.25 National income and economic policy: Money, output and employment (D302: prog 11).
8.40 Environmental control and public health: Biological protection problems posed by plutonium (P1272: prog 01).

RADIO 3 (VHF)

17.45 Great Britain 1750-1950: Sources and historiography: Attitudes to social class 1750-1850 (A401: prog 11).
18.05 Methods of educational enquiry: An empirical approach: The significance of multivariate data (E354: prog 10).
18.25 Introduction to psychology: Introduction to information processing (DS286: prog 10).
18.45 Decision making in British government (D321: prog 10).
19.05 Making sense of society: International and social control (B101: prog 20).

Tuesday July 15

BBC 2

9.40 The nineteenth century novel and its legacy: Hardy: Tales of ends and loves (A301: prog 10).
7.05 Topics in pure mathematics: Functions of differential equations (MST221: prog 11).
7.30 Numerical solutions of differential equations (M351: prog 11).
8.15 Mechanics and applied calculus: Mechanical vibrations (M100: prog 10).
8.40 Technology foundation course: Chemical reactors (T100: prog 11).
9.05 Arts foundation course: Synthesis of carbon compounds: Biosynthesis of proteins (S251: prog 11).
9.30 Renaissance Arts: Unity and diversity (A323: prog 11).

RADIO 3 (VHF)

Additional programmes for North Scotland and parts of Wales

6.10 Mathematics foundation course: Probability (MST121: prog 10).
6.35 Science foundation course: Species and populations (S100: prog 20).
7.00 Personality, growth and learning: Basic matters: From teenage boys (DS281: prog 11).
7.25 Introduction to psychology: Introduction to information processing (DS286: prog 10).
7.45 Decision making in British government (D321: prog 10).
8.10 Arts foundation course: Instruments and music (A100: prog 10).
8.35 Topics in pure mathematics: Turing machines (MST221: prog 11).
9.00 Topics in pure mathematics: Functions of differential equations (M351: prog 11).
9.25 Mechanics and applied calculus: Mechanical vibrations (M100: prog 10).
9.50 Technology foundation course: Chemical reactors (T100: prog 11).
10.15 Renaissance Arts: Unity and diversity (A323: prog 11).

Wednesday July 16

BBC 2

6.40 Comparative physiology: Hormones and homeostasis: Hormones and excretion (S362: prog 10).
7.05 Open Forum.
7.30 Education, economy and politics: Ideas for the future (S356: prog 11).
8.20 Introduction to the biosphere: Carbon compounds: Biosynthesis of proteins (S251: prog 11).
8.45 Personality, growth and learning: Learning workshop: Role playing (DS281: prog 11).
9.05 The history of architecture and design 1890-1930: English Arts and Crafts: Ashbee and Lethaby (A362: prog 14).
9.30 Urban education: Alternative approaches to community (E353: prog 07).
9.55 Decision making in British government (D321: prog 10).
10.20 Introduction to psychology: Studies in a mental hospital (DS282: prog 11).
10.45 Topics in pure mathematics: Turing machines and functions (M351: prog 11).

RADIO 3 (VHF)

6.00 Open Forum.
6.30 The sociological perspective: Occupational psychology (DS283: prog 11).
6.55 Decision making in British government (D321: prog 10).
7.20 Mechanics and applied calculus: Mechanical vibrations (M100: prog 10).
7.45 Topics in pure mathematics: Turing machines (MST221: prog 11).
8.10 Arts foundation course: Synthesis of carbon compounds: Biosynthesis of proteins (S251: prog 11).
8.35 Technology foundation course: Chemical reactors (T100: prog 11).
9.00 Renaissance Arts: Unity and diversity (A323: prog 11).
9.25 Numerical solutions of differential equations (M351: prog 11).
9.50 Introduction to psychology and politics: Psychological explanations of political behaviour (DS282: prog 11).
10.15 Introduction to psychology: Introductory laboratory course: Text-processing (DS284: prog 11).
10.40 Sociological perspectives: Social class: Work (DE353: prog 07).
11.05 Personality and learning: Learning workshop: Role playing (DS281: prog 11).
11.30 Technology foundation course: Chemical reactors (T100: prog 11).
11.55 Linear mathematics: Numerical solutions of differential equations (A251: prog 11).
12.20 Making sense of society: Starting from high school (D101: prog 11).

Thursday July 17

BBC 2

6.40 Decision making in British government (D321: prog 10).
7.05 Microeconomics: The corporate economy (D302: prog 11).
7.30 Introduction to psychology: Perception (DS286: prog 07).
7.55 The sociological perspective: Social class: Work (DE353: prog 07).
8.20 The development of instruments and music: The development of the piano (A304: prog 10).
8.45 Technology for the handicapped (PE121: prog 07).
9.05 Introduction to electronics: Electronics (T101: prog 11).
9.30 Topics in pure mathematics: Viscosity of a liquid (MT208: prog 10).
9.55 Making sense of society: Northcliffe Lane: Images of community (D101: prog 11).
10.20 Introduction to psychology: Introduction to information processing (DS286: prog 10).
10.45 National income and economic policy: Money output and employment (D302: prog 11).
11.10 Ecology: Saltmarsh and oil pollution (S365: prog 10).
11.35 Introduction to psychology: Introduction to information processing (DS286: prog 10).
12.00 Great Britain 1750-1950: Sources and historiography: Attitudes to social class 1750-1850 (A401: prog 11).

RADIO 3 (VHF)

6.20 Urban development: The 1909 Plan of Chicago (D301: prog 13).
6.40 Arts foundation course: Synthesis of carbon compounds: Biosynthesis of proteins (S251: prog 11).
7.05 Introduction to technology: Electronics and computers (T100: prog 11).
7.30 Introduction and background to the Open University (A100: prog 01).
8.00 Public administration: Policy for the under-fives: Oxford and local government reorganization (D321: prog 10).
8.25 Introduction to engineering: The human factor: Introduction (T101: prog 11).
8.50 Introduction to psychology: Introductory laboratory course: Text-processing (DS284: prog 11).
9.15 Topics in pure mathematics: Turing machines and functions (M351: prog 11).
9.40 Mechanics and applied calculus: Mechanical vibrations (M100: prog 10).
10.05 Technology foundation course: Chemical reactors (T100: prog 11).
10.30 Renaissance Arts: Unity and diversity (A323: prog 11).
10.55 Numerical solutions of differential equations (M351: prog 11).
11.20 Introduction to psychology and politics: Psychological explanations of political behaviour (DS282: prog 11).
11.45 Introduction to psychology: Introductory laboratory course: Text-processing (DS284: prog 11).
12.10 Sociological perspectives: Social class: Work (DE353: prog 07).
12.35 Personality and learning: Learning workshop: Role playing (DS281: prog 11).

Friday July 18

BBC 2

6.40 Complex analysis: The residue theorem (M351: prog 13).
7.05 Urban education: The inner city (E353: prog 08).
7.30 Introduction and background to the Open University (A100: prog 01).
8.00 Public administration: Policy for the under-fives: Oxford and local government reorganization (D321: prog 10).
8.25 Introduction to engineering: The laws of thermodynamics (T101: prog 11).
8.50 Systems modelling: I'll tell you what your airport is like (M352: prog 07).
9.15 Comparative physiology: Cell physiology: Cell physiology (S362: prog 11).
9.40 Biological bases of behaviour: The brain and behaviour (DS285: prog 10).
10.05 Advisory programme for seminar (E000).

RADIO 3 (VHF)

9.00 Science and society: Communication (A957/958).
9.30 Environmental control and public health: Biological protection problems posed by plutonium (P1272: prog 01).
9.55 Introduction to psychology: Introduction to information processing (DS286: prog 10).
10.20 Decision making in British government (D321: prog 10).
10.45 Introduction to technology: Electronics and computers (T100: prog 11).
11.00 Topics in pure mathematics: Turing machines and functions (M351: prog 11).
11.25 Mechanics and applied calculus: Mechanical vibrations (M100: prog 10).
11.50 Technology foundation course: Chemical reactors (T100: prog 11).
12.15 Renaissance Arts: Unity and diversity (A323: prog 11).
12.40 Numerical solutions of differential equations (M351: prog 11).

RADIO 3 (VHF)

6.20 Urban development: The 1909 Plan of Chicago (D301: prog 13).
6.40 Arts foundation course: Synthesis of carbon compounds: Biosynthesis of proteins (S251: prog 11).
7.05 Introduction to technology: Electronics and computers (T100: prog 11).
7.30 Introduction and background to the Open University (A100: prog 01).
8.00 Public administration: Policy for the under-fives: Oxford and local government reorganization (D321: prog 10).
8.25 Introduction to engineering: The human factor: Introduction (T101: prog 11).
8.50 Introduction to psychology: Introductory laboratory course: Text-processing (DS284: prog 11).
9.15 Topics in pure mathematics: Turing machines and functions (M351: prog 11).
9.40 Mechanics and applied calculus: Mechanical vibrations (M100: prog 10).
10.05 Technology foundation course: Chemical reactors (T100: prog 11).
10.30 Renaissance Arts: Unity and diversity (A323: prog 11).
10.55 Numerical solutions of differential equations (M351: prog 11).
11.20 Introduction to psychology and politics: Psychological explanations of political behaviour (DS282: prog 11).
11.45 Introduction to psychology: Introductory laboratory course: Text-processing (DS284: prog 11).
12.10 Sociological perspectives: Social class: Work (DE353: prog 07).
12.35 Personality and learning: Learning workshop: Role playing (DS281: prog 11).

BOOKS

The original absent-minded academic

The Mathematical Papers of Isaac Newton. Volume VI, 1684-1691
edited by D. T. Whiteside (with the assistance in publication of M. Hoskin and A. Prag)
Cambridge University Press, £25
ISBN 0 521 08719 8



A portrait of Isaac Newton painted in 1703 when he was 61.

Newton claimed the Plague years as those in which he most laboured at mathematics, but as Dr Whiteside's wonderful edition proceeds (now three-quarters finished) he makes an overriding claim for 1684-86 as containing the 18 most fruitful months of Newton's life. By 1687 the *Principia* was published: and the later part of the present volume deals with provisional revisions of its first book. The year 1693 was to bring Newton's well-documented mental collapse, leaving his mathematical powers greatly diminished. So this book deals with Newton in his prime, and in its way is complementary to Cohen's *Introduction* (from the same press four years ago). For it omits all details about the *Principia* itself, though it is very full and interesting about the story, both personal and mathematical, of what led up to it. But the two are complementary in another way: for Cohen rightly claims his *Introduction* as the "biography" of a book, so that Newton is but a ghostly figure for him, the necessary "one and only begetter" but no more. In Whiteside's pages Newton himself is to be found and this is delightfully even more the case in the profound mathematical notes than in the personal details.

The principal facts in these seven years can be rehearsed shortly. In the summer of 1684 Newton, at 42, was busy on a number of mathematical and chemical projects. In August came Halley's visit, bringing with it what amounted to an open challenge from Wren to explain the planetary orbits. It was more than five years since Newton, in correspondence with Hooke, had made some attempt at dynamics: Hooke, indeed, says (in a letter of January 6, 1679/80) "But my supposition is that the Attraction always is in a duplicate proportion to the Distance from the Center Reciprocall . . .". The unwary might see here an anticipation of Newtonian gravitation; not so, for Hooke is writing in a strictly Keplerian context in which the inverse square law serves only to prescribe the velocity as varying inversely with the distance which "effectively blocks the way to further theoretical advance" but the question had been put to Newton; and was reiterated eleven days later by Hooke in more explicit form—does the inverse square law lead to an ellipic orbit? The working by which Newton answered this question to his own satisfaction has not survived.

But he told Halley in 1686 that Hooke's "correcting my Spiral occasioned my finding ye Theorem by wch I afterward examined ye Ellipsis, yet am I not beholden to him for any light into ye business but only for ye diversion he gave me from my other studies to think on these things and for his dogmatical-nes in writing as if he had found ye motion in ye Ellipsis, wch inclined me to try it after I saw what method it was to be done." Now the interest was renewed and the result was first, as Newton says "upon your request I sought for ye paper and not finding it did it again and reduced it into ye Propositions shewed you by Mr Paget". So we have the tract *De Motu Corporum*, first and shortest of the several successive pieces which were ultimately to evolve into the *Principia* of 1687. Paget carried the first tract to London in November. Halley transcribed it, then made haste to Cambridge to confer with Newton but it, to quote, "already hard at work naturally persevere in y^t state in wch it is unlesse it hee interrupted by some external cause, hence. . . . A body once moved will always keep the same celerity, quantity, and determination of its motion"—so, without *vis insita* / Hypothesis three is another late addition and allows forces to be applied successively or simultaneously (so generating the parallelogram law). As to hypothesis four only "Hyp 4" is present as a late marginal addition, but the fair copy supplies an assumption about a valid approximation to initial motion. After two mathematical lemmas comes theorem 1: All orbiting bodies describe, by radii drawn to their centre of force, areas proportional to the times, with the same beautiful proof as in *Principia* Book 1, Proposition 1. This proof is not lacking in subtle difficulties as Whiteside ably shows; but its structure seems to answer the mystery above. The *vis insita* comes in on a par with the centripetal force to preserve the cogency of the argument in which the motion in the orbit is regarded as the superposition of a rectilinear motion along the tangent under almost no force and a motion towards the centre under the centripetal force. By the early spring of 1685, at latest, Newton had moved to the intermediate position, for definition 3 became "Force innate in matter is the power of resisting . . . nor does it differ at all from the *inertia* of its mass other than in the manner of our conceiving it".

After a theorem on circular orbits there comes the surprising geometrical statement equivalent to the now-standard expression for a central force in terms of polar angle and reciprocal of radius vector. (This appeared in *Principia* Book I, Proposition 6, but there it was also used [in the second edition] to deduce a corollary [Proposition 7] about a circle under two alternative forces [one as inverse of cubes of centres of force.) All the orbit properties would follow from this—but hardly in Newton's geometrical formulation. Still it serves to give the law of force for the only two simple cases of the elliptical orbit (centre of force as centre, or focus, as in *Principia* Book I, Propositions 10,11. The *Principia*, however, gives in the second edition an extremely subtle alternative proof for the inverse square law by applying the new Proposition 7, not to a circle, for which it was proved, but to any curve "of the same curvature". This required an insight which Newton, if indeed he had it in 1685, would have been wise not to require from his readers! But in fact it seems to date from the early 1690s and forms part of a general ambitious programme for recasting the first edition, a programme of which circumstances prevented the full completion.

There is much more besides of great interest about the laws of motion and their applications but this does not cause the treasures to be found here. For example the geometrical "result" that the quadrature of no oval figure is possible is to be found proved by a highly ingenious argument, and the editor traces the later history of this result—mostly accepted, sometimes rejected—to it "careful" acceptance by Rouse Ball in 1914 before giving us an unanswerable counter-example. Then there is printed, for the first time, Newton's first attempt at a dynamical theory of optical reflection, from a copy in private hands, and dating from the 1680s. Again, in late 1685, Newton was engaged in finding the solid of least resistance in a uniform fluid, and so essentially in the calculus of variations (over 20 pages here). Finally, to tell a complete success story, some of the problems in the motion of the moon show where "Newton more than met his match". . . . "repeated false starts, the myopic pursuit of disdened trails and a near-total lack of success". If we believe Condit, "Sr I. could it [work in motion of these topics. He has also organized a most useful chapter on general preparative methods.

The second half of the book gives a detailed if somewhat dated account of the chemistries of the first-row transition elements. The descriptive chemistry is on the whole accurate and representative, but lacks the flair and breadth of the related chapters in Cotton and Wilkinson for example.

Part one

Complexes and First-Row Transition Elements
by D. A. Nicholls
Macmillan, £3.95
ISBN 333 17088 1

Complexes and First-Row Transition Elements by David Nicholls is the first volume of a two-part series dealing with the chemistry of the transition elements. The companion volume, which will be published later this year, will discuss the chemistries of the heavier transition elements, the lanthanides and actinides. Dr Nicholls's volume deals with material which is more commonly taught to undergraduates and therefore will be competing directly with textbooks which give a comprehensive account of inorganic chemistry. To succeed against such strong competition a new textbook devoted exclusively to first-row transition elements must be either exceptionally well written or very inexpensive. Unfortunately, this volume does not satisfy either of these requirements and in fact presents only a conventional description of modern transition metal chemistry.

The book has two major sections. The first deals with the basic features and theoretical concepts of coordination chemistry and the second discusses the detailed chemistries of the first-row transition elements. However, the two sections have not been effectively welded together and consequently the theoretical concepts introduced in the preliminary chapters have not been effectively used to illuminate and unify the wealth of experimental facts which have accumulated in recent years for these elements. This is a common criticism of modern textbooks of transition metal chemistry and arises primarily from a misunderstanding of the strengths and limitations of modern ligand field theory. Simple thermodynamic arguments are often far more powerful than ligand field theory arguments for explaining the stabilities and occurrence of transition metal complexes. This book, unfortunately, under-utilizes the available basic thermodynamic and spectroscopic data for metals and their compounds.

Following a brief historical introduction Dr Nicholls introduces the student to many fundamental aspects of coordination and complex chemistry. Thus the second chapter discusses the classification of metal ions and ligands as Lewis acids and bases respectively and outlines the *hard and soft acid-base* concept. He fails, however, to exploit this pedagogically useful concept in a subsequent chapter dealing with the preparations and stabilities of metal complexes. This absence of logical development is also demonstrated in a later chapter which discusses the geometries of transition metal coordination compounds. After pointing out the deficiencies of the *valence shell electron pair repulsion* approach when applied to most transition metal complexes the author states: "Transition metal complexes having other configurations have not a symmetrical distribution of d electrons and we must use ligand field theory (chapter five) to comprehend the resulting stereochemistries." Chapter five fails to fulfil this promise and the student is therefore left with an incomplete picture of the factors which influence the observed geometries of many simple transition metal coordination compounds.

The book does have one extremely useful feature. Dr Nicholls has given a concise and clearly written account of the electronic and magnetic properties of the lighter transition metal complexes. Second and third year students frequently have problems with these topics because of basic conceptual difficulties and an unfamiliarity with term symbol notations. Some of these difficulties, in my opinion, are removed by Dr Nicholls' very readable exposition of these topics. He has also organized a most useful chapter on general preparative methods.

BOOKS

Conflict on the buses

Race and Labour in London Transport
by Dennis Brooks
published for the Institute of Race Relations and the Action Society Trust by Oxford University Press, £7.00
ISBN 0 19 218408 3

For a variety of reasons familiar to most old hands in what is sometimes called the race relations industry, studies of new commonwealth immigrants and race relations in Britain tend to appear either with the instant and well publicized wisdom of Pallas Athene or relatively unheralded, after a prolonged gestation which inevitably leads reviewers to assume that the contents are out-dated and inapplicable to current situations.

Dennis Brooks's book belongs in the latter category, the fieldwork having been carried out from 1965-67. But work-situations do not change all that rapidly, and it would be lamentable if the study were to be passed over for this reason, since it is not only a model of race relations research in Britain but also a meticulous and valuable contribution to industrial sociology, and particularly to the rather sparse corpus of sociological literature on public transport. Moreover, the study gains in value because it represents the kind of long-term, detailed research on immigrant-host relations and the processes of industrial absorption which today is not only less modish but more difficult to carry out than most surveys of the extent of discrimination.

One of the unexpected side effects of anti-discrimination legislation has been to make employers, shop-stewards and workers, native and immigrant alike, more cagey and self-conscious about allowing researchers in for a long stint of participant observation in the office or on the shop-floor, in the canteen and the washroom. The difficulties and delays involved even before the London Transport Board and the three unions concerned agreed to allow this study to go ahead are outlined in the introduction.

The core of the book consists of detailed studies of the work situation and relationships between white and coloured workers, crews and passengers, and crews and supervisors in three departments within London Transport—central buses, the railway operating department and the permanent way department. At the time of the fieldwork, the three employed nearly 40,000 operatives and supervisors, of whom some 7,000 were coloured immigrants, mostly West Indians. In all three departments, white native workers had voiced their opposition to and resentment of the employment of coloured immigrants, which began in the late 1950s. Opposition had apparently been least in permanent way, where status considerations were of less concern, more widespread in railway operating, and perhaps most intense in central buses, although strike action had been threatened only in one or two garages. Colour was the most frequently mentioned reason for objections, followed by fears that wages, conditions and standards would be threatened.

The author emphasizes that it was not so much relative numbers as the rate of build-up of immigrant numbers which was important in conditioning the native response. There is, he maintains, probably an optimum rate of build-up of coloured immigrants in a work force (ie, slow rather than fast) varying according to the traditions and culture of the organization, the skills and other attributes of the newcomers, the tasks to be learned and performed, and the technical and social organization for these tasks. At London Transport the build-up had been too rapid for smooth acceptance, though hostility was declining at the time of the fieldwork.

Brooks points out that while the traditional ethos and status consciousness of most public services would be likely to produce an adverse reaction to the employment of any identifiable group of outsiders (including women on the buses), in many respects London Transport has proved particularly well suited to the absorption of minority groups. He emphasizes the importance of the bureaucratic nature of the larger organization, with procedures which tend to be impersonal and thus not to discriminate; the centralized recruitment system; the need for some formal training of recruits; the disciplinary procedures—all these maintained standards and reduced the possibility of arbitrary behaviour.

The anti-discriminatory tendency of formal procedures also emerged in the important area of promotion, where the most serious and wounding ethnic discrimination is often to be found in industry as a whole. In railway operating, in particular, the use of the impersonal seniority criterion as an important mechanism of the career pattern has worked in favour of the immigrants. On the buses, on the other hand, the usual promotional step from bus crew to inspector presented problems because of the specific nature of the inspector's job—isolated and potentially conflict-provoking in relations with both public and bus crews. At the time of this fieldwork there were no West Indian inspectors but in 1968 management practice changed, possibly as a result of the impending extension of the Race Relations Act, and the first of a number of West Indian inspectors was appointed.

Sheila Patterson



Nineteenth-century replica of Wessex-style inlaid quadrant tile, in Sherborne Abbey. Illustration from "Medieval Floor Tiles" by Je Wright ; A. & C. Black, £6.50.

Study of social control

Law and Society
by Adam Podgórecki
Routledge and Kegan Paul, £5.95 and £2.75
ISBN 0 7100 7983 4 and 8035 2

Legal education has traditionally concerned itself with instilling into students techniques for discovering and applying the law relating to any problem which may be classified (or re-classified) as legal. It has also been concerned with teaching the methods by which the jobs regarded as legal may be performed —drafting contracts, conveying property, creating wills, etc. In many courses the only subject which allows a study of the law from a non-lawyer's perspective is that of jurisprudence (primarily concerned with the philosophy of law.

And while sociology was developing as a social science the attempts to apply its methods and insights to an analysis of the law and its operation, failed to persuade most legal academics that the approach warranted more than a brief mention as a "sociological school" within a study of major schools of jurisprudential thought. This neglect has recently been redressed to some extent and sociological studies and publications have increased quite dramatically, if haphazardly. *Law and Society* represents an attempt to introduce some order into such research.

The legal institution is not an easy object for sociological appraisal. For those whose training lies in sociology the task of examining a highly trained profession with a heritage of specialism and doctrine is formidable, particularly when the institutions of the law are so thoroughly legitimated by a body of jurisprudential theory of ever-increasing proportions. For those whose education has been in the law some of the same problems exist, for sociological study itself has been institutionalized to a point where those inducted neither into its methods nor its jargon will read sociological theory only with great difficulty. There is a further problem for those with legal training who would apply sociological techniques to their research and this arises, paradoxically, exactly because of the socialization process by which a law student becomes a member of the legal profession. The emphasis throughout the education is not upon the ways by which law acquires its meaning for a society, nor upon the interests which the law protects and maintains, nor yet upon the importance of the internalization of the values manifested in the law. Rather it is upon the "gone wrong" situation and the ways by which the resultant conflict is made legal and the particular decision by which

The dilemma is therefore thrown to be outside the legal institution as to undertake sociological research concerning the law is to be put handicapped, to be within may equally debilitating.

Professor Podgórecki, who is a fessor of sociology in the Univers of Warsaw, already known for several books in the field of sociol of law, is concerned in *Law a Society* both to examine and scribe techniques and resea methods of importance in pur sociological research into the op tion of the law. His aim also attempt some overview of resea already undertaken in order to categorize and to organize. done, he attempts to formula "general theory in the sociolog law".

The overview is useful particularly because of the problem in each of the research techniques he explores, but often the research he describes seems less than substantial somewhat arbitrarily ordered because his treatment is necessarily so cursory. There is emphasis, too, upon Polish research and Polish writing which while understandable and interesting result in some imbalance with sufficient space devoted to writ of at least comparable significan But here is an attempt to place empirical research into a sociolog framework which when complet and accepted would have the effect not suggest, not of complementing jurisprudence but of replacing it. Jurisprudence would itself become an object of sociological study.

A grand objective, but one totally achieved for in order to isolate the sociology of Podgórecki creates more imprudence of sociology has been observed, simply empirical but a way of perceiving the law as an institution related to and interacting with other institutions of society. If this is granted the tion of sociology of law might be unhelpful to overall theory. This is the defect of the first ter—the theory which is produced is too narrow to be called a gener theory in the sociology of law and must necessarily concentrate on the role of law in society. The of Berger and Luckman in *The Social Construction of Reality*, for exam ing control in society seems useful than a thesis attempting isolate sociological study of law.

Nevertheless those interested sociological method of relating the law will find much value them in this book which bravely attempts to traverse pitfalls all too apparent in legal research.

Wade Mac

Village solidarity

The Greek gift : politics in a Cypriot village
by Peter Loizos
Blackwell, £6.50
ISBN 0 631 15390 X

In contrast to those ethnographies which describe isolated and shrinking mediterranean villages this study deals with the wealthy and growing village of Kalo, about twenty miles from Nicosia. It is based on field-work carried out in 1968-69 with further brief visits in 1970. For its residents, the village is the point of moral and economic reference. They see themselves as prospering together from the irrigated cash-crop farming of vegetables and citrus fruit, and try to keep land, wealth and marriage partners within the control of the village. The economic prosperity of Kalo provides security for the villagers and a convincing reason for retaining a norm of village solidarity. Loizos shows how this norm, and the villagers' definition of politics as conflict likely to split the village, are used as tactical weapons of control over categories, groups and individuals within the village. While a man is not condemned for holding to any political ideology, as is thought a fanatic and a fool, to allow it to "spoil the village". Membership of village and regional committees accommodates political opinions in a way which is thought to restrict the possibility of cleavage and conflict so that members can get on with committee business without "playing politics".

Against this emphasis on the norm of village solidarity is set the belief that each man must gain the prestige of advancing his family economically. This advancement takes place in a context which includes national political parties, the uncertain ties of supporter and candidate, the traditional bonds between rural client and urban patron and the impersonal link between applicant and bureaucrat.

Loizos's analysis of the rare

the village brings out the interwoven themes of village solidarity and family self-advancement. The crisis issues include the proposal for a graduates' club in the village, a protest march in the capital against delay in building a dam and villagers' reaction to the leaders of national political parties who spoke in their district during the election campaign of July, 1970. When such well-known names as Glafcos Clerides and Nikos Sampson are faced by Kalo supporters and opponents, the links between politics at the village and national level in Cyprus are most graphically illustrated.

The ethnographic tradition central to British anthropology has typically produced detailed accounts of isolated communities in which the ethnographer's emphasis has been on coherence, stability and tradition. The extension of this tradition to the mediterranean basin has resulted, not surprisingly, in the production of similar accounts of isolated rural communities, usually presented in the contrast to the distant city which draws their inhabitants into a separate world of variety and change. What Loizos has done is to set beside these analyses an account of a very different kind of village : prosperous, in touch with the city and dialectically related to it ; and to show how such an analysis should be conducted.

With clarity of style and organization this study puts together a complex and confusing national scene and the fascinating detail of village personalities, problems and power seeking. It is important, both as a guide to the understanding of Cyprus and as a model for studies of local and national politics. It should encourage students of the mediterranean to turn their attention from crumbling traditions and dying villages to a consideration of those villages which face and engage with the city.

Margaret Kenna

Times reports

Times Books are publishing the first three in a new series entitled *The Times Reports*. Each book will cover a major historical event through a collection of extracts from *The Times* of the day ; the books which launch the series cover the American Civil War, the French Révolution and the National Government of 1931.

The extracts, which take the form of reports, editorial comment and letters, are linked by explanatory notes and passages where these are necessary. It is hoped that the books will be useful to both the student and the historian for research and to other readers for pleasure.

The American Civil War from 1860-1865 (£3.25 and £1.95) has dispatches from Bull Run and Gettysberg, and eyewitness accounts of events, though with a marked bias in favour of the South. The extracts do not only concentrate on descriptions of the battlefields, opinion in Britain is voiced over the issues and effects of the war.

Times reporter watched as Louis XVI was led to the scaffold —one of the extracts in *The French Revolution from 1789-1794* (£3.00 and £1.75). The British kept a close and anxious watch on events on the other side of the channel and coverage in *The Times* was very full.

National Government 1931 (£3.25 and £1.95) is a selection of extracts which explores the working and character of the last national government, reviewing the events which led to its formation and illustrating the balance of power and predictable conflict of personalities and pressure within it.

British Academy

Proceedings of the British Academy, volume LIX, 1973 has been published by Oxford University Press for the British Academy at £12.50. All the papers contained in the volume are also issued by the publishers as

BOOKS

Relatives in Moscow

The Communist Parties of Western Europe
by Neil McInnes
Oxford University Press, £5.00
ISBN 0 19 218311 7

Since the days of the Cold War many changes have occurred in Western Europe. The Communist Parties, no more sheltered than anyone else on the exposed battlefields of politics, have faced an enormous task of continuous readaptation. How have these parties stood the test of time ? What are their main features today ? What are their links with the Soviet Union—and with each other ? How prepared are they to gain and to wield power in government ? These are only four of the many questions discussed by Neil McInnes in *The Communist Parties of Western Europe*. His answers are well-worth reading.

It is no mean achievement to collect and to present in an interesting, articulate way a mass of up-to-date and useful information about the sizes, strengths and structures of two major and twenty-one minor Communist Parties. For this alone the book would deserve an important place on library shelves and reading lists wherever "comparative politics" or "European studies" are pursued. But McInnes's study contains much more than this, and for some of its other contributions it must be regarded as a pioneer work.

First, it examines the failure of many western Communist Parties fully to win the support of the emerging "new classes"—either the "sub-proletariat" of immigrant workers or the "middle classes" of technicians, intellectuals and students. In both Italy and France, this failure has led to divisions within the Communist Parties, but those most aware of the declining relative importance of traditional working classes and most willing to widen the party's base (Garaudy in the *Parti Communiste Français* [PCF] and the *Manifesto* group in the *Partito Communista Italiano* [PCI] have been ousted.

In discussing party membership, McInnes notes the irrelevance of Cold War critiques which related Party card carrying to social alienation. Nonetheless, there is a tendency for many to "pass through" the Party by becoming a member for a brief period of months or years and in general party membership is still regarded as slightly eccentric: "After all, the faith that causes are promoted by sitting on committees, passing resolutions, knocking on doors, selling papers and cadging votes is shared by only a minority of Europeans, whom the rest regard as victims of political obsession." Hence there is still a "communist mentality" with identifiable traits of its own.

The analysis of power structures within these parties is equally fascinating. The "three pillars" of communist legitimacy—the party bureaucracy, Moscow, and "bolshevik" workers—and the complex ways in which they interrelate are discussed at length. The study of party bureaucracy is at times bitterly critical: "Hypertrophy of the political instinct leads to missing the point of politics. The administration of the revolutionary structure, the party apparatus becomes the privileged occupation, while European history flows by outside, unnoticed."

Relations between Communist Parties and the development of "polycentrism" are described in some detail. McInnes notes the rejection by all the parties of the Russian model of violent revolution as a means of access to power, and the consequent definition of national "roads to socialism". This explains the tendency for every situation where a Communist Party seems near to attaining power to be analysed as a case study by every other CP. The fascination of the PCI and the PCF with the Portuguese political scene is thus comprehensible. For McInnes, polycentrism also includes a nascent communist international of the Western European parties, to some degree independent of Moscow. Whether this may one day supplant the USSR as a "third pillar" remains to be seen.

A final section of this book considers the fanatical desire of the larger Communist Parties to win power and the results of this desire. One result, happily facilitated by the absence of any clear policy imperatives in the Marxist ideology, is the espousal of populist, "acquisitive", economic policies. Another is the search for suitable allies. It is a curious paradox that those communist leaders most keenly committed to gaining power are also the most Stalinist—hence their strong wish for electoral allies is mitigated by their refusal either to criticize Soviet foreign policy or to appear liberal on civil rights questions—the price demanded for such alliances by French and Italian socialists. Ironically, those communists who have sought to welcome the "new classes", are the ones who are the most concerned with ideological purity, the most critical of the USSR, the most willing to protect civil liberties—and the least fanatical to gain either allies or power.

The communist phenomenon in Western Europe remains a fascinating enigma, but this excellent new book from Neil McInnes, despite its occasional critical excesses and its negligence of the positive side of the communists' balance-sheet, will undoubtedly increase the understanding of its very numerous readers.

Howard Machin

Putting the Belgians into context

France and Belgium 1939-1940
by Brian Bond
Davis-Poynter, £3.75
ISBN 0 7067 0168 2

"We don't care a bugger what happens to the Belgians", said Lieutenant-General Pownall, the Chief of Staff of the British Expeditionary Force (BEF), to the British military attaché in Brussels on May 23, 1940. Three days later he recorded in his diary that the Belgians were "rotten to the core and in the end we shall have to look after ourselves". Even a deletion of expletives could not tone down the continuous assertions of chauvinism and national interest which intrude into the statements, intentions and alibis of each of the participants in that most unusual alliance between Britain, France and Belgium in 1939-40. Each nation was sinned against and each was a sinner, but Belgium sinned least, was sinned against most, and has waited longest for an expiation. It is a merit of Mr Bond's excellent and wide-ranging study, that amongst the many shibboleths and myths of the period which he reviews, revises, and sometimes destroys, the "war guilt" of the Belgians for the débâcles of 1940 is effectively, and one hopes finally, set into context.

It was certainly not in the first rank as an operative alliance. The incredible command system, both within and between the French and British forces ensured this, and the aleatory size of the British contingent made certain that it would not be offered. But the most ambiva lent factor was Belgian neutrality. This meant that Belgian territory could not be used before a German attack, and that Belgium then became de facto ally with the limitation of commitment which that on May 21. As Mr Bond makes clear, it was a very bad military solution since Leopold had refused on political grounds to retreat to the Yser line. This might have mattered less, if the demoralized French commanders had actually implemented the plan. Instead they only threatened to, but by removing British divisions for this unrealized purpose, "Britain and France were instrumental in precipitating Belgium's collapse through over-extension to assist the BEF".

The British, who had suffered few casualties (only 500 by May 21) and were not short of ammunition, refused at least five Belgian requests in the crucial period May 24 to 26, to attack German infantry divisions, which were attacking the Belgians *across* the prepared lines of the BEF. Nor did Lord Gort inform the Belgians of his decision of, May 25 to withdraw to the Dunkirk perimeter. Mr Bond poses the question: "Was it realistic to expect the Belgians to fight to the last to enable the Allies to escape by sea ?" and shows that this was "precisely what Churchill did expect".

But mud sticks and Mr Bond is to be congratulated on penetrating beneath the smears and alibis. He has written an incisive analysis of such events as the unpreparedness of the British for a continental commitment ; the incredible command system of the Anglo-French armies ; the impact of the Mechelen incident ; Hitler ; disrupting his own success and halting the victorious *Wehrmacht* for a crucial three days ; the lack of coordination over the composition of the rearguard at Dunkirk. All these matters he has explained clearly and very readably, bringing together the established sources, much recent research, and crucial information from the Cabinet and COS records and the private papers of major participants. This is a first-rate book.

Tony Shaw

Yugoslav family life

Beyond Marx and Tito: Theory and Practice in Yugoslav Socialism
by Sharon Zukin
Cambridge University Press, £7.50
ISBN 0 521 20630 8

Professor Zukin's book represents a serious attempt to understand a real problem, "the distance between theory and practice in Yugoslav socialism". To write it she decided to live in Yugoslavia for a year (1970-71), "participating as much as possible in daily life, observing the kinds of public and political interaction which characterize the society, and reading about everything else I did not see directly". The effort has been well worthwhile, for the book is one of the most important and interesting studies of Yugoslav society to have been published in English in recent years.

I hope that Professor Zukin represents a new trend in American sociology, and that she is not a lone voice crying in the wilderness created by the model builders and value-free (and value-less) methodologists.

She will no doubt be criticized on methodological grounds, for instance for the way she chose the ten Belgrade families who provided her with much of her empirical data. Having attempted to enlist the help of Yugoslav social scientists, and meeting with either flat refusal or, more commonly, an infuriating use of "the dilatory tactic", she decided to "request or browbeat acquaintances who knew of . . . families which were absolutely ordinary . . .". The people interviewed range from a successful journalist, whose wife is a teacher, to a pensioner living in a "wild settlement" on the outskirts of the city. Members of six of the families belonged to the League of Communists—a higher than average proportion—and six could trace their origins to peasant families who migrated to Belgrade in the recent past. The sample does not include high party officials, members of the Government or directors of enterprises. The journalist with his Peugeot and his own home in an upper middle-class neighbourhood is the wealthiest of the group, and the one whose social elevation from rural poverty to a place in the "new Peugeoisie" owes much to his membership of the party. The time spent on interviewing the families varies from two to 18 hours.

All this is extremely "unscientific", and to make matters worse, Professor Zukin declares herself to be a supporter of "the idea of socialist self-management". Probably because she has broken all the rules of the academic game, and probably also because she is a sympathetic person with a great deal of common sense, she has got to the heart of the matter.

In all societies there is a gap between the official ideology and the reality of everyday life. This is not necessarily unhealthy, if it simply copresents a reaching out to a generally accepted goal which lies just beyond the grasp. Serious strains are set up, however, if the goals of the governed are different from those of the governors. As Harold Laski pointed out long ago, the greatest task of revolutionaries is not to change governments or power structures, but to change the everyday habits of thought of ordinary people. In a Yugoslav context, a self-managed, socialist society can only succeed if the ordinary people abandon the beliefs and attitudes to which they have been conditioned by generations of life in an individualistic peasant society.

In her introductory chapters Professor Zukin examines the official ideology, largely through the writings of Professor Najdan Pašić, and also the views of some of its critics, e.g. Djilas and the Praxis group. She then turns to her ten ordinary families and tries to discover the extent to which the reality which they perceive corresponds in any way to the theoretical models of the leaders. She concludes that ". . . the partisan generation's attitude towards their postwar political idealism has shifted from staunch belief to cautious retrenchment. Many of them admit to disillusionment, while others reject their earlier ideals as naively optimistic. The disillusionment of the partisan generation has communicated itself to their children, whose attitude to politics can best be described as cynicism." The "*borba za socijalizam*" (fight for socialism) has become the "*trku za dinarom*" (scramble for dinars). Most depressing of all is that participation in the self-managing process is a very low priority in the consciousness of her informants.

Professor Zukin has written about Yugoslav society as she saw it in 1970 and 1971. Since then there has been a considerable tightening of social discipline, and the League of Communists has come to occupy a more important role in society. There has also been a new constitution. Things may be changing, but if the analysis in this book is correct, it is not likely that the gap between the theory and practice will have narrowed significantly.

F. B. Singleton

History of Norfolk

A Bibliography of Norfolk History, compiled and edited by Elizabeth Darlock and Barry Taylor, has been published by the Centre of East Anglian Studies, University of East Anglia, at £7.20. The book was conceived as a memorial to Wyndham Ketton-Cremer, the Norfolk historian who made a lasting contribution to Norfolk studies. The bibliography is divided by subject matter, and the subjects covered include : geography, history and archaeology, politics and administration, economic history, religion, culture and recreation, art, architecture and monuments, biography and individual localities.

For reference only

W. & R. Chambers are entering the paperback market for the first time with the publication on June 10 of the *Chambers Paperback Reference Books* series.

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BOOKS

Of the Victorians and yet apart from them

Thomas Hardy: The New Wessex Edition; 8 volumes
edited by P. N. Furbank
Macmillan, hardback £3.50, paperback 50p and 65p each volume

The Literary Notes of Thomas Hardy: 2 volumes
edited by L. A. Björk
Acta Universitatis Gothoburgensis, Goteborg, Sweden

Young Thomas Hardy
by Robert Gittings
Heinemann, £4.95
ISBN 0 435 18363 X

Perhaps with the imminent expiry of Hardy copyright in mind, Macmillan have recently produced a selection of the poems (earlier reviewed in these columns), and have now issued the first eight of the *New Wessex Edition* of Hardy's novels. The absence of adequate edited and annotated texts of Hardy has been one of the numerous major gaps in academic studies where it is sometimes alleged that "everything has been done". Further volumes of fiction, poetry and miscellaneous writings are to follow.

The *New Wessex* is a dignified, handsomely printed, somewhat sombre production which all serious students of Hardy and all libraries will wish to have. In anything of this kind, the annotations have a major importance, and the notes are thorough, terse and lucid, with few lapses into banality. Hardy's fiction calls for annotation because of its wide if somewhat idiosyncratic range of cultural references, combined as this is with a rich fund of local, antiquarian and dialect knowledge.

It is a pity that authorship of these notes is not explicitly attributed in several cases, and we have also to rely on guesswork for the authorship of some of the other editorial material. Each volume has a general note on the text and sometimes some fuller information on Hardy's revisions, for example; it would have been better had there been more of this, and more uniformly.

Hardy's own prefaces are reprinted, and are essential reading. In certain wider respects, the annotation could have been better: Hardy's relations, for example, with such diverse matters as evolutionary and philosophic thought in his time, serial and magazine publication, social and agricultural change, "reformist" thinking, and the folklore and antiquarian movements of the later nineteenth century recurrently emerge, but not into a full and focused view. This might have been met by some supplementary essays. Much fuller bibliographical information would also be welcome: the innumerable explanations of dialect terms in the notes, for example, are most valuable, but it would be a welcome thing to know their source.

The introductions to each novel are again valuable, and collectively they amount to a quite significant body of new Hardy criticism. They rather fail to maintain a sense throughout of Hardy's extraordinary fresh immediacy, his profound but subsistent sensuousness, the animal yet whimsical strength of his apprehension. It is always like a douche of spring water to turn across from commentary to text, but perhaps that must and should be so with a major writer. Besides this, what I might call the enigma of Hardy, repeatedly approached is never quite fixed at least in general terms.

Hardly stood in a substantial continuity with mid-Victorian fiction like that of George Eliot, but also much apart from it; and this apartness was itself complex—a combination of a more fluid and tentative sensibility operating at the level of the narrator's art, of (in more contexts than one) an altogether more radical, activist and challenging social sense, and at the same time of a deeply recessive, even retrogressive inwardness, the backward-looking traditionalism of an older and largely vanished world: the result, complexity and enigma. The various contributors to this edition converge upon that enigma, but the want of an authoritative general introduction to the novels is much felt. Either John Bayley or Barbara Hardy (who write outstanding pieces on *Far From the Madding Crowd* and *The Trumpet Major* respectively) could have done such a piece well. In the absence of it, one is inclined to say that the individual criticisms are somewhat under-researched: Hardy's varied involvement in many of the movements of his time does not quite come out in its explicitness and detail. All in all, this is a welcome and valuable but somewhat unambitious edition.

The point about "under-researched" is rather confirmed by Björk's *Literary Notes on Thomas Hardy*. This is a meticulously thorough and scholarly edition of four of Hardy's own *Notebooks* which escaped the extensive destruction of personal papers that he himself perpetrated late in life. The full dividend of the work will accrue only slowly, as other scholars and critics browse in and ponder the entries, and sense, little by little, the filaments that these establish to and fro among Hardy's reading, thinking and writing. At once these volumes, mainly from the 1870s and 1880s, show Hardy's extensive and intricate contacts with new intellectual publications, and also with the world of current periodical writing and controversy.

Mr Gittings's *Young Thomas Hardy* is not an easy book to review. To do so at any length must be to give away, one after another, the points of valuable new insight that it offers us for Hardy, and to do so briefly may conceal its quite outstanding merit. Really Mr Gittings's talent for biography is astonishing. His sureness of touch over what Mr Björk calls "trifles of useful knowledge", the terse inset relating, scrupulous lack of over emphasis, and frequently noticed excellence of the writing, give us a splendidly rich, suggestive and always controlled picture of the complexity of the young Hardy and of the difficulty of the struggle for existence in his primitively hierarchic society. Sometimes (as over the elusive figure of "B.A.", perhaps the Sue Bridehead of ever twenty years later) Mr Gittings moves with the economy and precision of a chessmaster. This is a major biography.

John Holloway

Yen-yen, phy, red-lamp, lid-poppers et al

Harrap's English-French Dictionary of Slang and Colloquialisms
by G. A. Marks and C. B. Johnson
Harrap, £7.25
ISBN 0 245 52267 0

It is five years since the *Harrap's French-English Dictionary of Slang and Colloquialisms* appeared and the difference in price between that and the English-French volume just published is a sad commentary on the cost of publishing today. Where the previous volume, in almost exactly the same format, cost £2.50, the new one, which is a mere 44 pages longer, costs £7.25. So far there does not appear to be a slang word for "inflation", either in French or English; perhaps it is too serious a matter to be treated colloquially.

Quite apart from cost, however, the coverage of a dictionary of slang must always be coloured to some extent by subjective influences and by the personal experience of the compilers or the availability of informants. In French the treatment of slang has historically been heavily influenced by the prominence traditionally given to *argot* as the language of thieves and vagabonds, as well as of convicts and prostitutes, following the lead given by Vidocq in his early account of such matters.

In English, although the same elements have always been present and thieves' cant and cockney slang certainly fulfilled the same purposes as the *argot* of the *milieu* in France, it is nevertheless possible to make a good case for the contention that slang and colloquialisms here have a much broader social base, historically, than in France. At the purely impressionistic level one has the feeling that a good deal of English current slang is of middle-class origin, in fact that it is the result of an osmotic spread from elitist origins such as the public schools, the officers' mess, or the ward room rather than from the sergeants' mess or the lower deck. These latter groupings seem to manage very well on the whole with traditional forms of colloquialism or obscenity, leaving the process of originating new ones to their historical superiors. This is not intended simply as an observation about slang in general but also as a comment on the fact that this dictionary gives an impression of following a little too closely the French tradition in regarding slang as the prerogative of certain subcultures on the fringes of society, and the seamier fringes at that. Although slang is undoubtedly one of the distinctive signs of such subcultures, and although many of the expressions and terms so coined do gain acceptance in the idiom of society in general, it is nevertheless also true that the generation of slang has become a normal activity of almost any kind of close-knit human grouping, from golf clubs to office crews, in the Anglo-Saxon world.

Obviously not all such colloquialisms find general acceptance, many may indeed only be intended for "in group" use. It is the choice of groupings from which slang terms are to be taken, quite as much as the choice of the terms themselves, which presents a problem for compilers of dictionaries like this one. As it happens there may be something a little excessive in the prominence given here to the slang of the drug culture, and even perhaps to that of prostitution and sexual aberration, not for any reasons of moral judgment or good taste, since these do not enter into a study of slang, but simply because one wonders how widely current a certain number of these are and how they compare, in terms of general currency, with the slang of other activities. This impression is heightened by the feeling that no term one has ever met, and a large number of terms have never met in particular concerning drugs, are to be found here, while many terms enjoying wide usage in other specialized fields, but still with a large following, receive much less generous treatment. Oddly enough the most widely known slang term of all for a certain kind of drug is a few years ago, "yellow submarine" is not mentioned. To choose one field rich in slang which comes badly out of this selection there is the world of sports cars and motorbikes, where "gobsters", "blowers", "Xams", "Quackers" and "Japanese Christmas Trees" must be known to at least as many people as are "yen", "lid-popper", "Kickman", "phy" and other gems of the drug culture.

Even such a widely used term as "greaser" meaning a "yobo in a leather jacket who looks as if he rides a motorbike" (to quote my teenage informant), does not merit a mention, although other more dated uses of the word are given. However, every compiler of such a dictionary runs the risk of selecting or excluding terms which will not please some omniscient reviewer and it would be quite unfair and even dishonest to suggest that this is not a very valuable and unique work.

The translation aspect of this dictionary is usually excellent. Slang is always subject to certain fashions and has a taste of its own, but the various alternatives allow plenty of scope for choice. It is the translator's job to decide which of the twenty possibilities he wishes to use for "punk" for example. One permanent problem, which is unavoidable when translating slang or colloquialisms is that of the picturesque expression which has no similar parallel in the target language, and there are many examples here. "Red-letter" as in "red-letter day" apparently has nothing more exciting than "*jour de fête*", while even "red-light" or "red lamp" (district) has only the pedestrian equivalent "*un quartier à prostitutes*".

Such disappointments can be happily forgotten, however, in the wealth of material to be found here. Just like its companion volume five years ago, this one pulls out all the stops and really gives you the works, and if you want to translate the eyewash you got in the local rag or the gas you had with your crib-cracker buddy in the flesh, or even with the broad in the knocking-shop, then this is for you. Unfortunately it will not help you to explain that you met your hint in the *chipper* (it would have to have been a pedestrian paraphrase anyway), but if you went for a chinky in the flesh, or even with the broad in the knocking-shop, then this is for you to tell the tale in French.

Quite apart from serving as an indispensable part of the equipment of all visiting French students, this dictionary should become part of the armoury of every translator of modern English including those written in the American or Australian idioms. Older expressions of P. G. Wodehouse and similar vintages have not been entirely relegated but only the most enduring have properly been included. It should be possible, therefore, to make a passably good translation of Bertie Wooster's verbal mannerisms with it, just as it should be to translate one of Frankie Howerd's scripts and that could certainly not be said of any other English-French dictionary at present available.

Frank Healey

Heroic Viking adventures

Egils Saga
translated and edited by Christine Fell
Dent, £4.25
ISBN 0 460 10251 6

Egil Skallagrimsson, the principal character in this medieval Icelandic narrative, probably corresponds as closely as any saga hero to the popular image of the Viking. As he stalks about Norway, England and other parts of the Viking world, he shows himself to be a violent, brutish man, ready to kill or maim in return for the slightest insult, eager for glory and gold. It is true that Egil occasionally acts from kindness and friendship, and once appears like a knight in shining armour to save a girl and her family from a rough and importunate suitor, but such episodes are little more than an extension of his Viking adventures.

Yet Egil was not only a Viking warrior. He was also a poet, and his saga contains many of his compositions, both longer poems and occasional verses. Although the saga was not written in its present form until the thirteenth century and Egil himself lived in the tenth, few scholars doubt that most of the poetry attributed to Egil is genuinely his. Unlike much other Icelandic verse of this period, it bears a remarkably personal stamp. Indeed, Egil is one of the few individuals to emerge from the Viking Age, and his famous lament for the death of his son, *Sonatorrek*, is the earliest known poem from the Germanic world in which deep personal feelings are allowed to dominate. *Egils Saga* is not only worth reading for Egil's poetry. The prose narrative is among the finest pieces of saga writing, and scholars have frequently suggested it was written by Snorri Sturluson, author of *Heimskringla*, the famous history of the Norwegian kings.

Miss Fell's translation is the fourth English version of *Egils Saga* to appear, though only one of the other three, by Professor Gwyn Jones, is at all recent. The present translation seems to me to be the best, because it is as accurate, lucid and readable as Professor Jones's, yet follows the original Icelandic more faithfully. Miss Fell's version has the added advantage that Egil's verse has been translated by an English poet, John Lucas.

Scaldic poetry is notoriously difficult, some would say impossible to translate. Apart from having a word-order quite unlike that of Icelandic prose and an intricate metre with alliteration, assonance and internal rhyme, it relies heavily on an elaborate system of metaphors known as "kennings", many of which are based on allusions to stories and beliefs which form no part of a modern reader's experience. Unlike many earlier translators of Scaldic verse, Lucas has given careful thought to the problem and adopted a consistent approach: to produce "poems which are close to the originals in form, sense and tone, though not in the details of scaldic metaphors". This is a great advantage for the reader who is at last able to read Egil's poems as *poems*. Students of Old Norse and Germanic literature are given an indication of how the originals are phrased in the notes which accompany the saga.

The volume also contains a brief introduction, notes on the problems of translating both the prose and the verse, maps, a genealogical table, a select bibliography and indices of personal and place names and is an attractively produced book.

Michael Barnes

This week's reviewers

Frank Healey is professor and head of the department of linguistic and regional studies at the University of Surrey;
Margaret Kenna lectures in social anthropology at University College Swansea;
Howard Machin lectures in politics at the University of Hull;
Wade Mansell is a lecturer in law at the University of Kent;
Sheila Patterson is an honorary research fellow at University College London and is editor of the Community Relations Commission Quarterly journal "New Community";
F. B. Singleton is senior lecturer in the school of contemporary European studies at the University of Bradford and is chairman of the postgraduate school of Yugoslav studies there.

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Universities

The British Council

invites applications for the following posts:

Lecturer in English (Egypt)
Cairo University, Department of English
Graduates in English or Modern Languages with TEFL qualification and several years TEFL experience.
Salary: £3,385-£4,264 pa, tax free.
Benefits: free furnished accommodation; overseas allowance. Two-year contract. 75 AU 59

Lecturer in English Language (Mongolia)
University of Ulan Bator
Graduates with TEFL qualification and relevant teaching experience. Ability to use language laboratory and knowledge of audio-visual techniques and methodology essential. Single male candidates preferred. A knowledge of Russian or Mongolian an advantage.
Salary: 850-950 tugriks per month tax free (no exchange rate available), understood to be an excellent salary, plus sterling subsidy of £1,374 pa paid in Britain. Benefits: free accommodation; employer's portion of superannuation. Contract for one academic year. 75 SU 88

Lector in English (Hungary)
Eotvos Lorand University, Budapest
For September 1975
Arts graduate from a university in Britain with relevant EFL experience. Single candidates only, preferably aged 30-36.
Salary: 3,800 forints per month minimum, tax free, sufficient for living expenses, plus sterling subsidy of £1,374 pa paid in Britain.
Benefits: free accommodation; medical scheme; employer's portion superannuation. Ten months contract, renewable. 75 SU 87

Return fares are paid. Local contracts are guaranteed by the British Council.

Please write, briefly stating qualifications and length of appropriate experience; quote relevant reference number for further details and an application form to The British Council (Appointments), 65 Davies Street, London W1Y 2AA.

RICHMOND COLLEGE
PRINCIPAL

The Chairman of the Board of Governors, Vice-Chancellor Edward Maitland Wright, LL.D. (St. Andrews and Penn.), invites applications for the post of Principal of Richmond College.

Applicants must be graduates of a University in the United Kingdom and have had wide teaching and administrative experience in further or higher education in Britain. Experience of the American educational system would be an advantage.

The Principal is responsible to the Trustees and the Board of Governors for efficient administration and continued development of the College and serves as its principal academic officer. Richmond College is independently incorporated in Washington D.C. and derives its degree granting rights from the Board of Higher Education, Washington D.C. Currently the College has 200 residential students, most of whom are American, in the first, second and third years of degree courses, 50 foreign students are engaged in English language and pre-engineering courses prior to their departure for U.S. universities.

Salary is equivalent to Grade 5 of the Burnham Scale (c. £8,000 per annum). This appointment will commence as soon as possible.

Applications or requests for more information should be sent by July 14th to the Clerk to the Governors, Richmond College, Friars Stile Road, Richmond-upon-Thames, Surrey.

TOWN of TRALEE
VOCATIONAL EDUCATION COMMITTEE

Applications are invited for the following permanent whole-time teaching posts:—

(a) Lecturer, Scale I, in Mechanical or Production or Agricultural Engineering.
(b) Lecturer, Scale I, in Accountancy
(c) Lecturer, Scale I, in Business Administration
(d) Lecturer, Scale I, in Law
(e) Assistant Lecturer in Mechanical Engineering

Salary:
Lecturer, Scale I — Married £3,816-£5,261; Single £3,697-£4,923
Assistant Lecturer — Married £3,383-£4,827; Single £3,319-£4,530

Qualifications will be in accordance with terms of Memorandum V.T. 40 of the Department of Education, Ireland. All posts are subject to the sanction of the Department of Education.

Applications, on the official form, and further information available from the undersigned. Completed applications should be lodged with me by not later than Monday, 28th July, 1975.

Central Technical School, Moydeswell, Tralee, Co. Kerry, Ireland. J. FALVEY, C.B.O.

THE UNIVERSITY OF HULL
INSTITUTE OF MODERN DUTCH STUDIES

Applications are invited from candidates with appropriate qualifications in any field of Modern Dutch Studies for the post of Director of the Institute to be established from 1 October 1975 with funds provided by the Leverhulme Trust Fund. The Director will have the title and status of Professor in the University.

The initial salary will be within the range £7,950-£8,583 per annum plus such increase as may be nationally agreed before 1 October 1975, together with FSSU/USS benefits.

Applications (12 copies) giving details of age, qualifications and experience together with the names of three referees should be sent by 2nd August 1975 to the Registrar, The University of Hull, Hull, HU6 7RX, from whom further particulars may be obtained.

NATIONAL COLLEGE OF ART AND DESIGN, DUBLIN

The Board of the College invites applications from suitably qualified candidates for the following post:

LECTURER
IN THE HISTORY AND THEORY OF DESIGN

Applicants should hold a degree in some aspect of History of Art and Design with specialisation in design, or the theory of design, and preferably a post-graduate qualification. He or she will have had some teaching experience, and an awareness of, and interest in, the special challenges posed by the art school situation.

The Faculty of History of Art and Design and Complementary Studies has been in operation for a short time only, and the successful applicant will be expected to make a considerable contribution to course planning and administration.
Salary within the range £4,041 to £5,744.

Applications and further particulars may be obtained from: The Secretary, National College of Art and Design, Kildare Street, Dublin 2, Ireland.

Completed forms should be returned not later than 31st July.

NATIONAL COLLEGE OF ART AND DESIGN, DUBLIN

The Board of the College invites applications from suitably qualified candidates for the following post:

HEAD OF FACULTY OF DESIGN

Applicants should hold a degree, or its equivalent, in some area of Design, Architecture, or Engineering, and preferably a post-graduate qualification. He or she will have a strong record of industrial or commercial work, and experience of educational organization, or management, is essential.

The Faculty of Design is undertaking a considerable expansion of student numbers, and a major programme of course development. The College anticipates a move to new premises within the next three years. The Professor of Design will therefore be required to play a major part in the management team.

Salary within the range £4,492 to £6,294.

Applications and further particulars may be obtained from:

The Secretary, National College of Art & Design, Kildare Street, Dublin 2, Ireland.
Completed forms should be returned not later than 31st July.

LOUGHBOROUGH UNIVERSITY OF TECHNOLOGY

PLANNING AND DEVELOPMENT OFFICER

Applications are invited for the post of Planning and Development Officer in the Estates Office of the University, to be responsible to the Director of Works for all aspects of new building development. Applicants should be qualified architects and preferably should possess some further qualification relevant to University campus planning, as well as appropriate experience.
The person appointed will advise on space allocation, development and planning and will have oversight over consultants and contractors as well as being responsible for negotiating relevant approvals with local authorities, utilities and the University Grants Committee. Initially the appointee will also have managerial responsibility for the maintenance section of the Office.
Salary within scale £4,709-£5,976 (under review, may higher where partially served). Preferred requests for further details and application form to Assistant Registrar, (Establishment) ref: 75/27E, Loughborough, Leicestershire.

Candidates should possess a Ph.D. degree and have some relevant experience in architecture, surveying, design or management.

Salary will be dependent on qualifications and experience and will be within the range £3,696 to £5,151 per annum under review (normally plus £348). Appointment will initially be for one year but is renewable annually for up to three years.

Applications, giving full details of academic record and experience, together with the names of two referees should be sent as soon as possible to the Personnel Department, The Queen's University of Belfast, Belfast BT7 1NN, Northern Ireland, before 31st July 1975.

BATH
THE UNIVERSITY
RESEARCH ON SIGNALLING HEART DISEASE

Applications are invited for a SRC studentship, under the direction of Dr. R. Hurst and in collaboration with Pfizer Ltd., Sandwich, Kent. The field of study is in the pharmacologic intervention of cardiac performance and emergency fluid administration in the infarcted heart.

Candidates should hold, or expect to obtain, a first or good second class honours degree in either biochemistry or pharmacology and will be encouraged to register for a higher degree.

Applications with a curriculum vitae and the names of two referees should be sent to Dr. R. V. Brunt, Biochemistry Group, School of Biological Sciences, University of Bath, Claverton Down, Bath.

BELFAST
THE QUEEN'S UNIVERSITY
RESEARCH FELLOW IN AERO-HYDRICS

Applications are invited for the above post which is tenable in the Department of Aeronautical and Physical Sciences. The appointee will be concerned with experimental or theoretical investigations in the section of the Department dealing with aerospace and hydrospheric physical research grants. Whose current investigations include flow fields from supersonic number of aerofoils, flow fields from gas dynamic instruments, development of high altitude balloons, ground-based and satellite observations of phenomena.

Candidates should possess a Ph.D. degree and have some relevant experience in aerospace, physics or aerodynamics.

Salary will be dependent on qualifications and experience and will be within the range £3,696 to £5,151 per annum under review (normally plus £348). Appointment will initially be for one year but is renewable annually for up to three years.

Applications, giving full details of academic record and experience, together with the names of two referees should be sent as soon as possible to the Personnel Department, The Queen's University of Belfast, Belfast BT7 1NN, Northern Ireland, before 31st July 1975.

CARDIFF
THE UNIVERSITY COLLEGE
DEPARTMENT OF POLITICS

Applications are invited for the

CHAIR IN POLITICS

which combines the Headship of the Department of Politics.

Further particulars from the Registrar, University College, Cardiff CF1 1XL, to whom applications, to be received with the names of three referees, should be sent by 15th August 1975.

Universities continued

SAUDI ARABIA

MEDICAL FACULTY
UNIVERSITY OF RIYADH
PRE-MEDICAL SUBJECTS

The Medical College of the University of Riyadh has an intake of about 100 students annually.
Women students, accepted for the first time in the academic year 1974/75, comprise a little over one third of the annual intake.

For the time being, men and women students receive their pre-medical instruction in segregated classes. The language of instruction is English.

Applications are invited to fill posts to afford separate instruction to men and women students in the following pre-medical subjects:

CHEMISTRY
Assistant Professors
(2 posts)

PHYSICS
Assistant Professors
(2 posts)

PHYSICS
Associate Professors
(2 posts)

BIOLOGY
Associate Professor
(1 post)

BIOLOGY
Assistant Professor
(1 post)

Qualifications & Experience
Applicants for posts as Associate Professors should have not less than 5 years' teaching experience at University level.

Applicants for posts of Assistant Professor should be in possession of a Doctorate and have had some teaching experience at University level.

Monthly Salary Scales in Saudi Riyals (£1 = approximately SR8.4) are as follows:
Associate Professors: 4,800 x 200-5,800
Assistant Professors: 3,600 x 200-4,600

Annual Housing Allowance:
Associate Professors: SR17,000
Assistant Professors: SR15,000

Instalment Allowance: (Given once only on first appointment) is 50% of entitled housing allowance.

Gratuity: After 2 years of service, a gratuity, at the rate of a half month's salary for each year of service will be given. From the 6th year onwards, the gratuity is at the rate of one month's salary per year of service, dating from commencement of service with the University of Riyadh. The rate will be based on the last salary attained before separation, and will be applied to all the years served.

Taxation: Salaries, allowances, and gratuity are NOT subject to Income Tax.
Currency in Saudi Arabia is freely convertible, and there are no restrictions on its transfer.

Annual Leave Passages are provided.

Appointments for 1 year or longer, renewable. Secondments are considered.

Applicants will be required to agree to curricula vitae being circulated to their respective referees.

Detailed applications (3 copies) including a curriculum vitae and the names of three referees to be sent, as soon as possible to:

The Inter-University Council for Higher Education Overseas
90/91 Tottenham Court Road
London W1P 0DT.

from whom further particulars will be available.

BRISTOL
THE UNIVERSITY
TEMPORARY LECTURER IN SOCIAL ADMINISTRATION

Applications are invited for a one year temporary post in the Department of Social Administration and Social Work as from 1st September 1975. Salary, according to age, experience and qualifications, within the range £2,118-£2,913.

Further particulars may be obtained from the Secretary, University Senate House, Bristol BS8 1TH, to whom applications, together with the names of three referees, should be sent by 30th July 1975. (Please quote reference EB).

BRISTOL
UNIVERSITY OF BRISTOL UNION

Applications are invited for the post of ASSISTANT PERMANENT SECRETARY of the Union. Candidates should be interested in students' activities and have a sound administrative background with practical experience in the care of staff, buildings and equipment.

It is anticipated that the commencing salary will be within the Grade 1A Administrative scale, with a (present national) range effective from 1 October, 1974 of £2,370-£3,063, subject to further revision as from that date.

Application (three copies) should be sent not later than 28 July, 1975, to the Permanent Secretary, University of Bristol Union, Queens Road, Bristol, BS8 1LN, from whom further particulars may be obtained.

AUSTRALIA
MURDOCH UNIVERSITY
Perth, Western Australia
CHAIR IN VETERINARY CLINICAL STUDIES
(Ref. E.N. 0315)

Murdoch University, Western Australia's second university, admitted its first students in February, 1975. The University is committed to taking a fresh approach to higher education, with the goal of responding directly to the conditions and needs of the late twentieth century. This is reflected in admission policies, organizational structures, programmes of study, philosophies of teaching and recruitment of staff.

Applications are invited for appointment to the above-mentioned chair and it is anticipated that it will be taken up in early 1976. The appointee will be expected to play a major role in developing undergraduate teaching in his or her field, to encourage interdisciplinary studies and to implement programmes of research and research training at the highest levels.

The fourth Australian Veterinary School, recently established at Murdoch University, will have a class size of 48. It is headed by Professor Robert H. Dunlop and is comprised of two interlocking divisions, Veterinary Biology led by Professor J. McC. Howell and Applied Veterinary Medicine led by Professor M. E. Nairn. The advertised position is in the latter division. The appointee will be involved in all aspects of planning the curriculum, staffing, research and service aspects in applied veterinary medicine and surgery. A registrable veterinary qualification combined with clinical, academic and postgraduate experience is required. A knowledge of Australian conditions is highly desirable. The duties will include the establishment of a veterinary practice and liaison with professional colleagues to ensure adequate exposure of students to field problems and clinical cases. A clinical teaching and research facility designed by outstanding international consultants is in an advanced design stage and should be ready for occupation by late 1977.

General: Murdoch University, the second to be established in Western Australia, was constituted in July, 1973, and enrolled its first 600 undergraduate and 60 postgraduate students in February of this year. It is expected that its enrolment will increase steadily to reach approximately 1,900 undergraduates and 300 postgraduates in 1978.

The university's educational plans and policies include commitments to a broadly based first year of undergraduate study, to the development of interdisciplinary programmes of study, to the provision of external studies, to a more than usually flexible admissions policy, and to professional programmes in teacher education and veterinary science. It is organized around six schools of study (Education, Environmental and Life Sciences, Human Communication, Mathematical and Physical Sciences, Social Inquiry, and Veterinary Studies), rather than the more traditional faculties and departments.

Murdoch University is located south of the Swan River, 13 kilometres from the centre of Perth, on a 174 hectare campus that is mainly under native bush. It is currently housed in five new major buildings, and it is expected that four further major buildings will be added during the triennium 1976-1978.

Salary: $A23,669 per annum.

Further information about this appointment, the university and the conditions of appointment, including provision for superannuation, study leave, travelling and removal expenses, may be obtained from the Secretary General, Association of Commonwealth Universities (Appts.), 36 Gordon Square, London WC1H 0PF, or from the Personnel Officer, Murdoch University, Murdoch, Western Australia 6153.

Applications, in duplicate, including all relevant information and the names and addresses of up to three referees, should be submitted as soon as possible to the Personnel Officer. Where applicants are resident in the United Kingdom, Europe or Africa, one further reference copy should be sent to the Association of Commonwealth Universities, London Office.

The closing date for applications is 15 August, 1975.

BRADFORD
THE UNIVERSITY
RESEARCH STUDENTSHIP IN CHEMICAL CRYSTALLOGRAPHY

Applications are invited for a three-year RESEARCH STUDENTSHIP supported by the Cancer Research Campaign, of similar value to an SRC studentship. The successful candidate, normally possessing a good honours degree or equivalent in Chemistry or Physics, will use X-ray and neutron diffraction to study crystal structures relevant to carcinogenesis.

Informal enquiries to Dr. D. W. Jones, School of Chemistry (Bradford 33466, extension 288 or 408); further details and application forms obtainable from the Registrar, Post Ref. ..., University of Bradford, West Yorkshire BD7 1DP.

CARDIFF
UNIVERSITY COLLEGE
DEPARTMENT OF MECHANICAL ENGINEERING
AWARD OF S.R.C. RESEARCH STUDENTSHIP IN ABOVE DEPARTMENT

The successful candidate will investigate aspects of the structure and contact of engineering surfaces. Excellent facilities exist for on-line computer controlled surface data acquisition and processing. Applicants should have a first or upper second class honours degree in an engineering or applied physical sciences subject.

Remuneration is at current S.R.C. rates but additional income may be obtained by assisting with student tutorial and demonstration duties. Duties to commence September/October, 1975.

Applications, together with the names and addresses of three referees, should be forwarded to the Registrar, University College, P.O. Box 78, Cardiff, CF1 1XL. Closing date for applications 25 July, 1975. Please quote ref. 0346.

AUSTRALIA
MONASH UNIVERSITY
Melbourne
CHAIR OF GEOGRAPHY

Applications are invited for a Chair of Geography, following the resignation of Professor R. H. T. Smith to take up an appointment at the University of British Columbia.

While applications from candidates whose interests lie in any part of the subject will be welcomed, preference may be given to a human geographer with an interest in the less developed countries, particularly in Southeast Asia.

There are two chairs at present in the department. The new professor will be expected, in addition to taking part in undergraduate and graduate teaching and in research, to act as chairman of the department in rotation with the current chairman, Professor M. I. Logan, from whom further information may be obtained.

Salary, $A23,669 per annum. Superannuation is based on an endowment assurance scheme, the employee and employer contributing 5 per cent and 10 per cent respectively.

Information on application procedure and further particulars may be obtained from the Academic Registrar, Monash University, Clayton, Victoria 3168, Australia, or the Secretary-General, Association of Commonwealth Universities (Appts.), 36 Gordon Square, London WC1H 0PF.

Applications should reach the Academic Registrar not later than September 15, 1975. The Council reserves the right to make no appointment or to appoint by invitation at any stage.

CARDIFF
UNIVERSITY COLLEGE
CHAIR IN WELSH HISTORY

Applications are invited for the Chair of Welsh History, which carries with it the Headship of the Department. Fluency in the Welsh language is essential as all courses are offered in both English and Welsh.

The new professor will take up his duties in January, 1976, or as soon as possible thereafter.

Salary will be within the professorial range.

Applications, together with the names and addresses of three referees, should be forwarded to The Registrar, University College, P.O. Box 78, Cardiff CF1 1XL, from whom further particulars may be obtained. Closing date for applications 18 August, 1975.

Please quote ref. 0344.

DUNDEE
THE UNIVERSITY
DEPARTMENT OF MECHANICAL ENGINEERING

There is a vacancy for a RESEARCH FELLOW in the above Department, to work with Professor A. D. S. Barr on a study of Numerical Solutions of Non-Linear Problems in Structural Dynamics.

Ideally, applicants should have previous research experience to Ph.D. level in engineering, computing or numerical mathematics, but applications from Honours graduates without such experience will be welcome.

The appointment is financed by a grant from the Ministry of Defence and is available for 3 years from 1 October 1975.

The initial salary, on October 1974 scales (to be increased from October 1975) will be between £1,809 and £2,412 p.a. plus £230, with placing dependent on qualifications and experience.

Applications, containing the names of two referees and quoting Reference Est/69/75C should be sent by 25 July 1975 to The Secretary, The University, Dundee DD1 4HN.

HULL
THE UNIVERSITY
INSTITUTE FOR HEALTH STUDIES
RESEARCH STAFF

Two GRADUATES (preferably post-higher degree) are required to work with Dr. R. G. S. Brown and Dr. R. J. Bicock on an S.S.R.C.-financed study of the reorganised National Health Service.

It is intended to make one senior and one more junior appointment, commencing at appropriate points in the range £2,778 to £5,838 (plus cost of living increases). Appointment will be for three years, commencing 1st October, 1975, or as soon as possible thereafter.

Applications will be welcomed from candidates who are qualified in any of the main social and quantitative disciplines and are interested in multi-disciplinary organizational studies.

Further particulars may be obtained from the Registrar, University of Hull, Hull HU6 7RX, to whom applications (six copies), stating age, qualifications and experience, and giving the names of three referees, should be submitted by 31st July, 1975. Please quote reference HS 2.

HULL
THE UNIVERSITY
INSTITUTE OF HEALTH STUDIES
RESEARCH POST

Applications are invited from candidates qualified in sociology or social administration for work on a research project, financed by the Department of Health and Social Security, on the deployment, management and morale of paramedical staff in the National Health Service. Postgraduate qualifications and experience of survey work would be an advantage. The appointment will be for three years commencing 1st October 1975, or as soon thereafter as can be arranged.

Initial salary will not exceed £3,500 on the scale £2,778 by £204 to £3,798 (subject to a cost of living increase).

Further particulars may be obtained from the Registrar, University of Hull, HU6 7RX, to whom applications (six copies), stating age, qualifications and experience, and giving the names of three referees should be submitted by 21st July, 1975. Please quote ref. HS 3.

HULL
THE UNIVERSITY
DEPARTMENT OF GERMAN

Applications are invited for the post of LECTURER in the DEPARTMENT of GERMAN. Preference will be given to candidates with special knowledge of Eighteenth-Century Literature, although candidates with interests in other aspects of German studies would be considered.

Salary scale: £2,778 to £6,050 per annum plus superannuation benefits.

Applications (six copies) giving details of age, qualifications and experience, together with the names of three persons to whom reference may be made should be sent by 10th August, 1975, to the Registrar, University of Hull, Hull HU6 7RX, from whom further particulars may be obtained.

JAMAICA
THE UNIVERSITY OF THE WEST INDIES

Applications are invited for the post of ASSISTANT REGISTRAR in the Secretariat. Applicants should possess a good degree and have had experience in administration. Duties will be to assist in the general administration. Salary Scale: J$6,168 to J$9,768 per annum (£1 sterling equals J$2.07). Unfurnished accommodation let by University at rental of 10 per cent of salary. If, however, the staff member provides his own accommodation, he will be paid a housing allowance of 20 per cent of his pensionable salary. F.S.S.U. Study and travel grant. Family passages.

Detailed applications (six copies) including curriculum vitae and naming three referees, should be sent as soon as possible to the Registrar, University of the West Indies, Mona, Kingston 7, Jamaica. Further particulars are available from the same source and should be obtained before an application is made.

KEELE
THE UNIVERSITY
LECTURESHIP IN SOCIOLOGY

Applications are invited for lectureship in Sociology. Candidates should be interested in new methods of teaching as well as in developing research methods in any field of sociology. Salary on first three points of Lecturer scale £2,118 to £4,896 per annum plus threshold payments (under review).

Application forms and further particulars from the Registrar, The University, Keele, Staffs., ST5 5BG, to whom completed forms should be returned by 31st July, 1975.

KEELE
THE UNIVERSITY
DEPARTMENT OF CHEMISTRY

Applications invited for post of LECTURER in CHEMISTRY, commencing 1st October, 1975, or as soon as possible thereafter. Salary on first three points of Lecturers' Scale (at present under review). Interest and experience in instrumental analytical methods and their application in organic (or inorganic) chemistry will be an advantage.

Further particulars and application forms from the Registrar, The University, Keele, Staffs., ST5 5BG, to whom completed forms should be returned by 8th August, 1975.

LEEDS
THE UNIVERSITY
DEPARTMENT OF GEOGRAPHY

Before making a final allocation of S.S.R.C. Quota Awards the Department would be pleased to hear from any further students who wish to be considered for research. Applicants should write to Professor A. G. Wilson, Department of Geography, University of Leeds, Leeds LS2 9JT as soon as possible.

LEEDS
THE UNIVERSITY
SCHOOL OF ENGLISH

Applications are invited for a LECTURESHIP in ENGLISH LITERATURE, with special reference to the nineteenth and twentieth centuries.

The appointment will be made from 1st January 1976 at a salary on the scale £2,118 to £4,896 (under review).

Application forms and further particulars can be obtained from the Registrar, The University, Leeds LS2 9JT, quoting reference number 3/1/Do.

Closing date for applications 4th August, 1975.

LEICESTER
THE UNIVERSITY
TUTORIAL ASSISTANT
DEPARTMENT OF HISTORY

Applications are invited from men and women graduates for a TUTORIAL ASSISTANTSHIP in MODERN HISTORY. Candidates should preferably have an interest in English History.

Salary on scale £1,542 to £1,635, to £1,728 to £1,821 plus threshold supplements (under review with effect from 1st October 1975).

Further particulars from the Registrar, to whom applications should be sent by 21st July 1975.

LONDON
QUEEN ELIZABETH COLLEGE
(University of London)
Campden Hill Road, W8 7AH

GRADUATE in one of the SOCIAL SCIENCES is required for two days a week to act as Course Tutor for administrative and teaching duties for a group of overseas students studying for a postgraduate Diploma in Food Resources related to Community Development.

Apply, stating age, qualifications, experience and the name and address of two referees, to the College Secretary, not later than July 25.

LONDON
INSTITUTE OF PSYCHIATRY
LONDON UNIVERSITY
(BRITISH POSTGRADUATE MEDICAL FEDERATION)
SENIOR LECTURER OR LECTURER IN BIOCHEMISTRY

The post will become vacant in the Department of Biochemistry from October 1975. The person appointed will be expected to develop research and to take part in postgraduate teaching and research supervision. Biochemistry of the central nervous system and its relation to psychiatry is taught in courses for M.Phil. (Psychiatry) and for M.Sc. (Neurochemistry). Advice to and collaboration with other Departments of the Institute are encouraged. Applicants are expected to have research experience in a biochemical subject applicable to neurochemistry, and preferably with an orientation to the medical problems studied at the Institute.

Starling salary within the ranges, including London Allowance etc., of Senior Lecturer, £5,336 to £6,604; Lecturer, £2,746 to £5,624, according to qualifications and experience; eligible for USS.

Application forms and further details from the Secretary, Institute of Psychiatry, de Crespigny Park, Denmark Hill, London SE5 8AF or telephone 01-703 5411 extension 328, quoting reference HM/THES.

LONDON
WESTFIELD COLLEGE
(University of London)
ARTS BASED COMPUTER PROGRAMME ADVISOR

Westfield College requires someone to provide an advisory programming service for the Arts Faculty. Some research projects involving computing are already in progress, but the potential for applying computing techniques to Arts Research is still largely unrealised. The successful applicant will be a graduate who is enthusiastic about computer techniques and who is capable of effectively communicating this interest to others. The post carries an important educational function.

Salary on the scale £2,437 or £2,816 to £3,913 (including London weighting and threshold payments) depending on age and qualifications (under review).

Applications to Dr. J. Buckingham, Personnel Officer, Westfield College, Kidderpore Avenue, Hampstead, London, NW3 7ST, from whom further details may be obtained.

LONDON
THE UNIVERSITY
GOLDSMITHS' COLLEGE
SOCIOLOGY DEPARTMENT
New Cross, London SE14 6NW

Applications are invited for the post of RESEARCH ASSISTANT in the SOCIOLOGY DEPARTMENT, as from 1st October, 1975, or as soon after as possible.

Salary scale £1,544 x £58 (2)-£1,684 plus £561 London Allowance and £229.68 threshold, per annum.

Write for further details, enclosing a stamped addressed medium size envelope, to the Personnel Officer, to whom applications should be sent by 25th July, 1975.

LONDON
THE UNIVERSITY
KING'S COLLEGE
POSTDOCTORAL RESEARCH ASSISTANT
DEPARTMENT OF MATHEMATICS

Applications are invited for a postdoctoral research assistantship in algebraic number theory to work on a project on Galois module structure, supported by the Science Research Council.

Salary scale: £2,118-£3,990 plus £399 London Allowance per annum and threshold payments. USS contributions are payable.

Applications should be made to Professor A. Fröhlich, Department of Mathematics (THES), King's College, Strand, London WC2R 2LS.

LONDON
QUEEN MARY COLLEGE
University of London
GEOGRAPHY DEPARTMENT

RESEARCH ASSISTANT (Graduate) required from 1st September, 1975, to work mainly in human geography. Competence in the use of statistical and computer techniques an advantage. Salary within scale £2,370 to £3,594 per annum (under review), plus £399 London Allowance.

Applications (including curriculum vitae and names and addresses of two referees) to the Registrar (THES), Queen Mary College, Mile End Road, London E1 4NS, not later than 25th July.

LIVERPOOL
THE UNIVERSITY
DEPARTMENT OF GEOGRAPHY

Applications are invited for the post of LECTURER in the DEPARTMENT of GEOGRAPHY, tenable from 1st January 1976. The person appointed will be expected to contribute to the general undergraduate teaching of the department, including tutorial field and practical work.

Applicants should state their areas of interest and research and any relevant teaching experience.

Initial salary within the range £2,118-£3,285 per annum on a scale rising to £4,896 per annum. (Under Review.) Applications, together with the names of three referees, should be received not later than 1st August, 1975 by The Registrar, The University, P.O. Box 147, Liverpool L69 3BX, from whom further particulars may be obtained. Quote Ref ...

Universities continued

LONDON
THE UNIVERSITY
LEWISHAM CHAIR OF SOCIAL ADMINISTRATION TENABLE AT BEDFORD COLLEGE AND ATTACHED TO GOLDSMITHS' COLLEGE

The Senate invite applications for the above Chair tenable at Bedford College and attached to Goldsmiths' College, from 1 October, 1975, or as soon as possible thereafter. Salary not less than £6,105 plus £399 London allowance and threshold supplement.

Applications (10 copies) should be received not later than 16 September, 1975, by the Academic Registrar (THES), University of London, Senate House, London WC1E 7HU, from whom further particulars may be obtained.

LONDON
THE UNIVERSITY
WHEATSTONE CHAIR OF PHYSICS AT KING'S COLLEGE

The Senate invites applications for the above CHAIR which becomes vacant October, 1976. The holder will be Head of the Department of Physics. Salary not less than £6,105 plus £399 London Allowance and threshold supplement.

Applications (10 copies) should be received not later than 31 October, 1975, by the Academic Registrar (THES), University of London, Senate House, London, WC1E 7HU, from whom further particulars may be obtained.

MALAWI
THE UNIVERSITY
CHANCELLOR COLLEGE

Applications are invited for the post of LECTURER in GEOGRAPHY, School of Education. Candidates should have at least an honours degree in Geography, but a higher degree will be an advantage. Candidates with a teaching qualification and/or teaching experience in a secondary school will be preferred. Interest in curriculum development and the structuring of secondary school Geography courses to "O" level would be welcomed.

Duties will include teaching Geography to general degree and diploma students, student guidance in course work, teaching methods and supervision of teaching practice in secondary schools at both diploma and Graduate Certificate in Education levels.

Salary scale: K2,009 to K4,714 p.a. (£1 sterling equals K1.91). There may be either a University addition of K790 per annum (taxable in Malawi) or the British Government may supplement salary in range £1,670 to £1,992 per annum (sterling) for married appointee or £910 to £1,332 per annum (sterling) for single appointee (normally free of tax) and provide children's education allowances and holiday visit passages. Gratuity of 15 per cent to 25 per cent; superannuation scheme transferable with F.S.S.U.; family passages; various allowances; biennial overseas leave; housing.

Detailed applications (2 copies), including a curriculum vitae and naming 3 referees, should be sent by airmail, not later than 7 August, 1975, to the Registrar, University of Malawi, University Office, P.O. Box 278, Zomba, Malawi.

Applicants resident in U.K. should also send 1 copy to Inter-University Council, 90/91 Tottenham Court Road, London W1P 0DT. Further particulars may be obtained from either address.

MANCHESTER
THE UNIVERSITY
INSTITUTE OF SCIENCE AND TECHNOLOGY
DEPARTMENT OF MECHANICAL ENGINEERING
RESEARCH ASSISTANT

A Research Assistant is required with programming experience in FORTRAN and internal combustion engine simulation work. The appointment will be to a joint Science Research Council project between UMIST and the University of Kent to study thermodynamic and gas dynamic performance of rotary spark ignition engines. The appointment will be for two years.

Salary will be within the range £1,809 to £2,787 per annum (under review). Applications, quoting reference ME/77/CJ, should be sent to Professor R. S. Benson, Department of Mechanical Engineering, UMIST, P.O. Box 88, Manchester M60 1QD.

MANCHESTER
THE UNIVERSITY
TEMPORARY LECTURERS IN ECONOMICS

Applications are invited for one year posts from candidates with interests in any field of economics.

Salary range p.a. (under review): £2,118-£2,580 plus threshold payments.

Further particulars and application forms (returnable by July 10th) from the Registrar, The University, Manchester, M13 9PL. Quote ref: 142/75/THES.

MANCHESTER
THE UNIVERSITY
LECTURER IN ENGINEERING

Applications invited for this post for work on SOIL MECHANICS in the Civil Engineering Division of the Department of Engineering. Salary range £2,118 to £4,896 per annum plus threshold (new scale agreed by arbitration £2,778 to £6,050 subject to further review). Superannuation.

Initial salary within first four points.

Particulars and application forms (returnable by July ...) from the Registrar, The University, Manchester, M13 9PL. Quote reference ...

MANCHESTER
THE UNIVERSITY
DEPARTMENT OF PHYSICS
EXPERIMENTAL RESEARCH ON SUPERFLUID ³He

Applications are invited for a postdoctoral post of RESEARCH ASSISTANT to participate in experiments on superfluid ³He. Some experience of millikelvin technique is desirable. The post is financed by SRC on Range IA for Research and Analogous Staff and appointment will be for two years in the first instance, extendable for a third year.

Applications, including a brief curriculum vitae, list of publications, and the names of two referees, to Professor H. E. Hall, The Schuster Laboratory, The University, Manchester M13 9PL.

MANCHESTER
THE UNIVERSITY
POSTDOCTORAL RESEARCH ASSOCIATE (THEORETICAL COLLOIDS)

Applications invited for this post, sponsored by Cookson International Ltd., for research with Dr. S. Levine on theory of wetting of porous powders. A candidate should be an applied mathematician, or a theoretical chemist, chemical physicist or chemical engineer; knowledge of surface chemistry and fluid mechanics and some computing experience advantageous. Initial appointment for one year starting in the autumn; renewal expected for a second year for suitable appointee.

Salary not less than £2,118 per annum plus threshold on present scales (equivalent to £2,778 on new scales agreed by arbitration, subject to further review). Superannuation.

Full applications with names of two referees to Dr. S. Levine, Department of Mathematics, The University, Manchester M13 9PL.

NIGERIA
AHMADU BELLO UNIVERSITY

Applications are invited for the following posts, tenable as soon as possible, in the Department of English and European Languages, Abdullahi Bayero College, Kano:—

SENIOR LECTURER/LECTURER IN ENGLISH
SENIOR LECTURER/LECTURER IN FRENCH

Candidates should have good Honours Degree in English/French. A higher degree, considerable teaching experience, and a record of published research are essential for Senior Lectureships and would be an advantage for Lectureships. For positions in French, a CREDIF Diploma would be an advantage and for positions in English, a postgraduate qualification in Applied Linguistics or in English as a second language would be an advantage. Appointees will be required to teach English/French in the Preliminary Course which prepares students for the Joint Matriculation Examination, the standard attainable being "A" level/Higher School Certificate.

Salary scales: Senior Lecturer, N6,895 to N8,730 per annum (£4,755 to £6,021 per annum sterling); Lecturer, N3,380 to N6,905 per annum (£2,590 to £4,762 per annum sterling) (£1 sterling equals N1.45.) The British Government may supplement salaries in appropriate cases. Family passages; various allowances; superannuation scheme; biennial overseas leave. Detailed applications (two copies), including a curriculum vitae and naming three referees, should be forwarded by airmail not later than 4 August, 1975, to the Registrar, Ahmadu Bello University, Zaria, Nigeria.

Applicants resident in United Kingdom should also send one copy to Inter-University Council, 90-91 Tottenham Court Road, London W1P 0DT.

Further particulars may be obtained from either address.

NORWICH
UNIVERSITY OF EAST ANGLIA

Applications are invited for the temporary post of LECTURER in ENGLISH LITERATURE in the School of English and American Studies for one year from 1st October, 1975. Candidates should be qualified to teach nineteenth and twentieth century English literature, particularly the novel, and/or English drama.

Salary will be paid at an appropriate point on the scale £2,118 to £2,757 (under review), plus threshold and F.S.S.U./U.S.S.

Applications (one copy only), together with the names and addresses of three persons to whom reference may be made should be sent to the Establishment Officer, University of East Anglia, Norwich NR4 7TJ, not later than 21st July, 1975.

OXFORD
THE UNIVERSITY
SHELL-MITSUBISHI LECTURESHIP IN JAPANESE

The university proposes to appoint a Japanese Lector for one year with effect from 1 October, 1975. The duties of the Lector will be to assist in all forms of modern Japanese language teaching. The salary will be £3,010. A native knowledge of hyojungo and a good knowledge of English are essential qualifications.

Applications (six copies) including a statement of age, qualifications and experience should reach the Secretary, Oriental Institute, Pusey Lane, Oxford, not later than 31 July.

OXFORD
THE UNIVERSITY
BODLEIAN LIBRARY

The Curators invite applications for the Keepership of Scientific Books which will shortly become vacant. The Keeper is a Sub-Librarian and Officer of the Library and is responsible to Bodley's Librarian for the administration of the Radcliffe Science Library.

Applications, together with the names of three referees, should be submitted by 18 September, 1975. They should be addressed to Bodley's Librarian, The Bodleian Library, Oxford OX1 3BG, from whom further information can be obtained. ...

NOTTINGHAM
THE UNIVERSITY
CAREERS ADVISORY SERVICE

Are you interested in advising young adults on matters of vocational choice in the widest sense, i.e., involving educational as well as occupational elements?

One essential is a perceptive understanding of student aspirations and uncertainties. Varied experience whether gained in the public service, industry, commerce or education is likewise a prime requirement.

The post is open to graduates of any discipline, though there may be preference for an applied scientist. The age range is 28 to 45. The salary scale for Careers Advisers is £1,920 to £3,708 (Grade IA) and £3,543 to £4,848 (Grade II) plus threshold payments—both scales being under review—but the appointment will be made initially in Grade IA.

Further particulars and application form from Staff Appointments Officer, University of Nottingham, University Park, Nottingham. (Job Ref. 447.) Closing date: July 21, 1975.

NOTTINGHAM
THE UNIVERSITY
DEPARTMENT OF ECONOMIC AND SOCIAL HISTORY

Applications are invited for a post graduate Tutorship for Research on the role of Economists in the British Government during World War II.

Applications together with the names of two referees to Professor A. W. Coates, Department of Economic and Social History, University of Nottingham, University Park, Nottingham, not later than 14th July, 1975.

PAPUA NEW GUINEA
UNIVERSITY OF TECHNOLOGY
BURSAR

Applications are invited for the post of BURSAR at the University.

The Bursar is responsible directly to the Vice-Chancellor for the financial management, accounting and business administration functions, including the preparation and administration of the annual budget and triennial estimates.

Candidates must have either a university degree and/or a professional accounting qualification. Applicants should have a minimum of 10 years relevant experience at a responsible level, ideally in a University or tertiary educational institution.

Salary — $A16,286 per annum. Allowances additional to salary are payable as follows: Married $A2,300 per annum. Single $A1,300 per annum. In certain circumstances a child allowance of $A156 per annum is also payable. An educational allowance and additional fares may be provided for children being educated away from their parents' place of residence. Other benefits include furnished housing (hard goods only) supplied at nominal rental, leave fares to place of recruitment every second year and equivalent fares to Canberra each alternate year and six weeks annual leave. Superannuation benefits apply in most circumstances.

Lae, the gateway of the Papua New Guinea highlands, is a pleasant tropical town situated on the Huon Gulf. The town's population totals approximately 6,000 Europeans and 25,000 Papua New Guineans. Sporting facilities are particularly well catered for and the 18 hole golf course is considered the best in the country.

Applications close on July 26, 1975, and should be forwarded to The Registrar, The Papua New Guinea University of Technology, P.O. Box 793, Lae, Papua New Guinea. An additional copy of application should be sent to the Association of Commonwealth Universities (Appts.), 36 Gordon Square, London WC1H 0PF, from whom further particulars may be obtained.

SOUTH PACIFIC
THE UNIVERSITY

Applications are invited for the post of RESIDENT SENIOR LECTURER/LECTURER in the EXTENSION CENTRE, WESTERN SAMOA.

Applicants should be graduates with training and experience in public and educational administration who have demonstrated practical skills in teaching and organization of work and programmes relative to university extension. Proven ability to work effectively and successfully with and in island communities is important as well has having had some successful experience in University extension work. The appointee will be responsible to the Director of Extension Services for establishing an appropriate University presence in Samoa in association with a local advisory committee. He/she will be required to establish an office in Apia and to develop suitable programmes in Continuing Education at all levels. He/she will be expected to generate interest and play an effective role in extramural activities of the University as they relate to Western Samoa.

Salary scales: Senior Lecturer $F7,994 to $F9,374 per annum. Lecturer $F5,802 to $F7,737 per annum (£1 sterling equals $F1.84). The British Government may supplement the salaries of a married appointee in range £574 to £834 per annum (sterling) (normally free of all tax) and provide children's education allowances and holiday visit passages. This supplementation is unlikely to apply to single appointees.

Superannuation scheme: 10 per cent gratuity for contract appointments; partly furnished accommodation at rental of 15 per cent of salary.

Detailed application (six copies) including a curriculum vitae, a recent small photograph and naming three referees, should be sent by 4 August, 1975, to the Registrar, University of the South Pacific, P.O. Box 1168, Suva, Fiji. ...

THE OPEN UNIVERSITY
STAFF TUTORS IN EDUCATIONAL STUDIES

Applications are invited for two tenured posts as Staff Tutors in Educational Studies. One post will be for the North West Region and one for the North Region.

The main duties of the posts will include liaison with members of the central academic staff and assisting the Regional Director in the appointment, training and supervision of part-time tutors.

The Staff Tutor will be appointed to the Faculty but will be organisationally responsible to the Regional Director and will be based at the regional centre. For the North West Region, this is in Manchester, and for the North Region it is in Newcastle.

Candidates should combine wide interests in education with a particular knowledge of and special interests in the field of administration and management of education.

Salary will be at a point appropriate to the successful candidate's qualifications and experience on the incremental scale: £2,118 to £4,896 per annum, plus threshold payments and membership of the Universities' Superannuation Scheme.

Application forms and further particulars are obtainable from: The Personnel Manager (SITE 1), P.O. Box 75, The Open University, Walton Hall, Milton Keynes MK7 6AL. Telephone: Milton Keynes 63068.

SALFORD
THE UNIVERSITY
DEPARTMENT OF MODERN LANGUAGES
LECTURESHIP

Applications are invited for a post of LECTURER in FRENCH. Candidates should be interested in the teaching of the modern language. The successful candidate will be expected to take up his duties by 1 October, 1975.

Salary within the scale £2,118-£4,896 per annum plus threshold payment (the scale is currently under review).

Further particulars and application forms may be obtained from the Registrar, University of Salford, Salford, M5 4WT, to whom completed applications should be returned by 28 July, 1975, quoting reference ML/42/THES.

THE SOUTH PACIFIC
THE UNIVERSITY
and
THE DEPARTMENT OF ADMINISTRATIVE STUDIES FOR OVERSEAS VISITING FELLOWS
UNIVERSITY OF MANCHESTER
SENIOR LECTURER IN MANAGEMENT STUDIES

Applications are invited for a post at Senior Lecturer level which has been established by the Inter-University Council for Higher Education Overseas in connexion with the link scheme between the Department of Administrative Studies for Overseas Visiting Fellows, University of Manchester, and the School of Social and Economic Development, University of South Pacific. The appointment is for a period of five years and will be based at the University of Manchester. The successful applicant will spend an initial term of about six months and subsequent periods in the University of Manchester but his prior commitment will be overseas.

Applicants should possess a good honours degree and either a postgraduate qualification and/or relevant experience at a senior level in the field of management in the public sector. The major responsibility of the appointee would be the development and supervision of Management Studies for senior personnel from both the public and private sector, in addition to teaching of undergraduate programmes.

The salary at Manchester will be at the appropriate point of the Lecturer scale according to qualifications and experience. The salary overseas will be on the scale (Senior Lecturer) Fijian dollars 7,994 by 230 to 9,374 (£1 sterling equals 1.8 Fijian dollars), with 10 per cent annual gratuity for contract appointment. In addition secondees will be eligible to receive certain benefits under the British Expatriate Supplementation Scheme.

Applications including the names of three referees should be lodged by 19th July, 1975, with the Registrar, University of Manchester, Manchester M13 9PL, from whom further particulars may be obtained.

TASMANIA
THE UNIVERSITY
CHAIR OF PHYSICS

Applications are invited for a second chair in the Department of Physics; the existing chair is held by Professor G. R. A. Ellis, DSc., F.A.A.

The desirable area of study for the new chair is astrophysics. Preference may be given to a person who is interested in the theoretical aspects of this area. The fields of research interests in the Department are: Radioastronomy, Optical Astronomy, Optics, Biophysics, Theoretical Particle Physics, Theoretical Plasma Physics, Cosmic Ray and Nuclear Physics.

Salary: $A23,669 p.a.

Further details, conditions of appointment and application forms are obtainable from the Association of Commonwealth Universities (Appts.), 36 Gordon Square, London, WC1H 0PF.

Applications close 11 August, 1975.

WALES
THE UNIVERSITY
UNIVERSITY COLLEGE OF SWANSEA
TEMPORARY LECTURER

Applications are invited for the vacancy of Temporary Lecturer in the DEPARTMENT of COMPUTER SCIENCE.

The appointment, which will be for one year from October 1, 1975, will be made at the lower end of the scale £2,778-£3,090 per annum (under review), together with threshold payments and USS/USDPS benefits.

Further particulars and application forms (two copies) may be obtained from the Registrar/Secretary, University College of Swansea, Singleton Park, Swansea, SA2 8PP, to whom ...

SOUTH AFRICA
UNIVERSITY OF THE WITWATERSRAND
Johannesburg
SCHOOL OF LAW
SENIOR LECTURER LECTURER

Applications are invited for appointment to the above post. Duties are to be assumed on a date to be negotiated.

Salary will be in the range Senior Lecturer—R8640-R11250, Lecturer—R6700-R9180.

The initial salary will be determined according to qualifications and experience. Benefits include an annual bonus, pension and medical aid facilities, and a housing subsidy, if eligible.

Intending applicants should obtain the information sheet relating to this post from the London Representative, University of the Witwatersrand, 278 High Holborn, London W.C.1. Applications should be lodged with the Registrar, University of the Witwatersrand, Jan Smuts Avenue, Johannesburg 2001, South Africa not later than 31st August, 1975.

WESTERN AUSTRALIA
THE UNIVERSITY
PERTH

Applications are invited for the following appointments:—
BIOCHEMISTRY

SENIOR LECTURER or LECTURER in the DEPARTMENT of BIOCHEMISTRY. The appointment is occasioned by an increase in the student quota in medicine. The research activities of the Department include biochemical aspects of development, endocrinology, control of parturition and lactation, enzymology of lipid metabolism and enzyme kinetics. Travel grants are regularly available for various research purposes within Australia. Intending applicants should write immediately to the Head of the Department for further details.

Closing date: 8 August, 1975.

PROSTHODONTICS

LECTURER in the DENTAL SCHOOL. Applicants must hold a degree in dental science which is registrable by the Dental Board of Western Australia. In addition they should have had clinical experience in the practice of dentistry with a special interest in prosthodontics. It is also desirable, but not essential, that candidates should have some postgraduate and teaching experience in this subject. The appointee will be expected to engage in the teaching of undergraduates in prosthodontics under the immediate supervision of the head of the Division of Prosthodontics and under the general direction of the Professor of Dental Science. Further information is available from the Staffing Officer in the University or from the Association of Commonwealth Universities (Appts.), 36 Gordon Square, London WC1H 0PF.

Closing date: 30 August, 1975.

The salary ranges are: Senior Lecturer $A18,954 to $A19,544 per annum; Lecturer $A11,655 to $A15,668 per annum. Benefits include superannuation similar to F.S.S.U., fares to Perth for appointee and dependent family; removal allowance, study leave and long service leave and housing loan scheme.

Applications in duplicate stating full personal particulars, qualifications and experience should reach the Staffing Officer, University of Western Australia, Nedlands, Western Australia, 6009, by the closing date.

Candidates should request three referees to write immediately to the Staffing Officer.

ZAMBIA
THE UNIVERSITY

Applications are invited for two posts at the level of RESEARCH PROFESSOR/SENIOR RESEARCH FELLOW / RESEARCH FELLOW in the INSTITUTE of HUMAN RELATIONS. Applicants must possess postgraduate qualifications from a recognized university and should be interested in any of the following areas of research: the Task of Building a "Man-centred Society" in Zambia; a Critical Appraisal of the Zambian Philosophy of Humanism; Cultural Relations as an Important Dimension in International Understanding and Cooperation; Overcoming Obstacles and Hindrances to Racial Harmony in Africa; The Challenge of the Divided World.

Salary scales: Research Professor, K7,400 to K7,800 per annum; Senior Research Fellow, K5,600 to K6,600 per annum; Research Fellow, K4,000 to K5,400 per annum. (£1 sterling equals K1.46.) The British Government may supplement salaries in range £1,230 to £2,352 per annum (sterling) for married appointees or £376 to £1,182 per annum (sterling) for single appointees (normally free of all tax) and provide children's education allowances and holiday visit passages. Family passages; various allowances; superannuation; and medical aid schemes; regular overseas leave.

Detailed applications (two copies), including a curriculum vitae and naming three referees, should be sent by airmail, not later than August 7, 1975, to the Registrar, University of Zambia, P.O. Box 2379, Lusaka, Zambia.

Applicants resident in United Kingdom should also send one copy to the Inter-University Council, 90-91 Tottenham Court Road, London W1P 0DT. Further particulars may be obtained from either address.

ZAMBIA
THE UNIVERSITY

Applications are invited for the post of PROFESSOR of ENGLISH in the Department of Literature and Languages, School of Education. Applicants should have a good first and postgraduate degree, research experience and long experience of university teaching, including supervision of postgraduate students. Preference will be given to candidates who have experience in an African University and an interest in the training of teachers in a developing country. Preference will also be given to candidates whose main interest is the teaching of English as a second language, and who are prepared to work closely with colleagues concerned with language teaching methods in the School's Department of Education. Duties will include teaching and curriculum development in the programme leading to the degree of B.A. with Education, and assisting the School of Education to develop a sound research and postgraduate programme in the field of language teaching. Salary scale: K7,400-K7,800 per annum (£1 sterling equals K1.46). The British Government may supplement salary by £2,352 per annum (sterling) for a married appointee or £1,182 per annum (sterling) for a single appointee (normally free of all tax), and provide children's educational allowances and holiday visit passages. Family passages; various allowances; superannuation and medical aid schemes; regular overseas leave.

Detailed applications (two copies), including a curriculum vitae and naming three referees, should be sent by airmail, not later than 11 August, 1975, to the Registrar, University of Zambia, P.O. Box 2379, Lusaka, Zambia. Applicants resident in U.K. should also send one copy to Inter-University Council, 90/91 Tottenham Court Road, London, W1P 0DT. Further particulars may be obtained from either address.

Polytechnics

lecturer in educational technology

Applications are invited for this additional post in a rapidly developing area of the college's work. The person appointed will be expected to contribute to existing part-time courses in media resources and educational technology and to a new post-experience diploma course in educational technology.

Applicants should be suitably qualified and preferably possess a higher degree in education or educational technology, and have experience in the production of structured learning materials.

Salary scale Lecturer (A) £3216 — £5012(bar) — £6495, with initial placing dependent upon approved prior experience. Financial assistance towards the cost of removal expenses may be payable.

Further particulars and forms of application are obtainable from the Principal, Dundee College of Technology, Bell Street, Dundee DD1 1HG, to whom completed forms of application should be returned not later than 14 days after the appearance of this notice.

dundee college of technology

Polytechnics continued

NEWCASTLE UPON TYNE POLYTECHNIC

Department of Nursing and Welfare Studies

Principal Lecturer in Social Work

To be responsible for the planning and co-ordination of the Social Work Branch of a proposed CNAA Degree in Applied Social Science, jointly submitted by the Departments of Behavioural Studies and Nursing and Welfare Studies, and the development of the academic work of the Social Work Division, particularly in the areas of research and community based practice. Candidates should have good academic qualifications in the field of applied social studies as well as relevant professional experience.

Burnham FE Principal Lecturer Salary Scale : £5,940—£6,642—bar—£7,578 (subject to confirmation).

For further particulars and application forms, returnable by 21st July, 1975, please send stamped addressed foolscap envelope to Staffing Officer, Newcastle upon Tyne Polytechnic, Ellison Building, Ellison Place, Newcastle upon Tyne, NE1 8ST.

NORTH STAFFORDSHIRE POLYTECHNIC

Department of Economics and Business Studies

Lecturer II and Lecturer I in Law

Applications are invited for these posts from suitably qualified candidates to teach on degree and professional courses. Preference will be given to candidates with business experience.

Salary scale (subject to confirmation) :—
Lecturer II : £3,279-£5,493
Lecturer I : £2,469-£4,377

Commencing salary according to qualifications and experience.

Details of benefits available to successful applicants are included in the further particulars.

Application forms and further particulars can be obtained from :—

Deputy Director (Staffing),
North Staffordshire Polytechnic,
College Road,
Stoke-on-Trent ST4 2DE.

OXFORD POLYTECHNIC

Department of Catering Management

Applications are invited for the following posts. Duties to begin on 1 January 1976 (or earlier in the case of Principal Lecturers).

Principal Lecturer in Hotel and Catering Operations (£5,001-£6,429)
Principal Lecturer in Food and Beverage Operations (£5,001-£6,429)
Lecturer-Senior Lecturer in Nutrition (£2,670-£5,412)

Further details and application forms from

Head of Department of Catering Management,
Oxford Polytechnic,
Oxford OX3 0BP.
Closing date for applications 31 July 75.

LONDON
THAMES POLYTECHNIC
LECTURER AND BUSINESS TRAINING ADVISER

The prime responsibility entails finding suitable part-time business representatives for student meeting for B.A. (Hons.) in International Marketing — in French, German and Spanish speaking countries. Travel in these areas will be necessary. Applicants should be graduates preferably in Business Studies, these languages, or Economics, with familiarity and preference for the successful candidate for a knowledge of Arabic, Hebrew or in one of these languages.

Closing date 29th July, 1975, for a starting date on 1st September, 1975 or as soon afterwards as possible.

Salary scale : Senior Lecturer Grade I or Senior Lecturer according to qualifications and experience. Lecturer Grade II £2,670 to £3,279 (bar £3,414) plus £300 London allowance (men under 25 years of age receive reduced allowance). Currently under review.

Further particulars and form of application may be obtained from the Secretary, Thames Polytechnic, London SE18 6PF to whom completed applications should be returned by 25th July, 1975.

ABERDEEN
ROBERT GORDON'S INSTITUTE OF TECHNOLOGY
SCHOOL OF BUSINESS MANAGEMENT STUDIES

LECTURER IN LAW

with professional or teaching experience. Honours degree considered.

Duties mainly undergraduate level in one or more of Administrative, Industrial or Property Law.

Salary range £5,216 to £6,495 per annum.

Placing according to qualifications and experience. Assistance with removal expenses.

Details from Director, Robert Gordon's Institute of Technology, Schoolhill, Aberdeen, AB9 1FR.

LEICESTER
THE POLYTECHNIC
SCHOOL OF BUILDING, SURVEYING & LAND ECONOMY
(re-advertisement)

SENIOR LECTURER IN BUILDING SURVEYING
(Post No. 3265)

Candidates should be Building Surveyors and preferably corporate members of the Royal Institution of Chartered Surveyors. Previous lecturing experience desirable, but not essential.

The post will involve lecturing to Building Surveying degree, diploma and external RICS examination students and development work for proposed new courses.

Salary (under review) : £4,206 to £5,010 (bar) £5,412 per annum plus threshold payments.

Further particulars and application form obtainable from: Staffing Officer, Leicester Polytechnic, P.O. Box 143, Leicester LE1 9BH.

LIVERPOOL
THE POLYTECHNIC
DEPARTMENT OF SURVEYING

PRINCIPAL LECTURER IN BUILDING SURVEYING

Applications are invited from academically and professionally qualified building surveyors for the above post. The successful applicant will be responsible for leading the team implementing the recently approved Degree in Building Surveying and will be expected to promote research work.

Salary: £5,001 to £6,429 (bar at £5,613). Under review.

Further details available from the Staff Office, Liverpool Polytechnic, Richmond House, 1 Rumford Place, Liverpool L3 9BH.

MANCHESTER
MANCHESTER POLYTECHNIC
FACULTY OF ART AND DESIGN

DEPARTMENT OF FINE ART

The Department wishes to appoint a PAINTER to commence in September, 1975 on a 9/5 pro-rata Lecturer II appointment.

Initially this post is for one year but may be renewable annually for a maximum of three years.

Salary will be 9/5 of the Lecturer II scale £3,670 to £4,476 (under review).

For further particulars and application form (returnable by 31 July, 1975), please send a self addressed envelope marked "A/2325/75" to the Secretary, Manchester Polytechnic, Lower Chatham Street, Manchester, M15 6BX.

BRISTOL
THE POLYTECHNIC
DEPARTMENT OF SURVEYING

LECTURER II/SENIOR LECTURER IN URBAN ESTATE MANAGEMENT OR VALUATIONS
Ref. L54/135.

LECTURER II/SENIOR LECTURER IN HOUSING MANAGEMENT
Ref. L54/136

The persons appointed will join the team involved in lecturing to students on degree and diploma courses. They will be expected to assist with course development, project work, and the day to day running of courses. Some responsibility must will be given to persons wishing to undertake research and specialise within the appointed disciplines. Qualification backed by relevant academic training are the main requirements for the posts which might suit graduates or Diploma holders with a professional experience and an appropriate professional qualification.

A period of in service teacher training will be available for a person without teaching experience for which time will be allowed in the duties of the post.

Salary Scale : LII/SI. £3,670 to £4,206 (bar) to £5,010 (bar) on S3.4.

Further details and application forms (to be returned by 25th July, 1975) from Personnel Office, Bristol Polytechnic, Ashley Down, Bristol BS7 9BU.

Please state whether for Lecturer II or Senior Lecturer in all communications.

NOTTINGHAM
TRENT POLYTECHNIC
DEPARTMENT OF EDUCATION

LECTURER GRADE II IN PSYCHOLOGY (INTEREST IN HANDICAP)

(Salary Lecturer Grade II : £3,279-£5,493).

LECTURER II IN PSYCHOLOGY with interest in handicap (or earlier) to join in organising new programme of degree and post graduate training with particular reference to mental handicap. Qualification should include basic psychology to Honours Psychology. Experience in field of mental handicap would be advantageous but applicants are welcomed from those with qualitative experience in allied fields and a wish to develop a specialist interest in mental handicap.

Further details and particulars of application may be obtained from the Secretary, Trent Polytechnic, Clifton, Nottingham NG11 8NS to whom completed applications should be returned by 25th July, 1975.

BRISTOL
THE POLYTECHNIC
DEPARTMENT OF SURVEYING

LECTURER II/SENIOR LECTURER IN URBAN ESTATE MANAGEMENT OR VALUATIONS
Ref. L54/135.

LECTURER II/SENIOR LECTURER IN HOUSING MANAGEMENT
Ref. L54/136

The persons appointed will join the team involved in lecturing to students on degree and diploma courses. They will be expected to assist with course development, project work, and the day to day running of courses. Some responsibility must will be given to persons wishing to undertake research and specialise within the appointed disciplines. Qualification backed by relevant academic training are the main requirements for the posts which might suit graduates or Diploma holders with a professional experience and an appropriate professional qualification.

A period of in service teacher training will be available for a person without teaching experience for which time will be allowed in the duties of the post.

Salary Scale : LII/SI. £3,670 to £4,206 (bar) to £5,010 (bar) on S3.4.

Further details and application forms (to be returned by 25th July, 1975) from Personnel Office, Bristol Polytechnic, Ashley Down, Bristol BS7 9BU.

Please state whether for Lecturer II or Senior Lecturer in all communications.

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Further details and particulars of application may be obtained from the Secretary, Trent Polytechnic, Clifton, Nottingham NG11 8NS to whom completed applications should be returned by 25th July, 1975.

Fellowships and Studentships

OXFORD POLYTECHNIC

Department of Construction

SRC (Case) Studentship

Applications are invited from first or upper second class honours graduates, and those expecting to graduate, in Civil/Structural Engineering to investigate a practical problem in Structural Engineering industry related to precast concrete portal frames. The successful candidate will be expected to be registered for a CNAA higher degree. The studentship is to be awarded for the period of three years, starting from September 1975, including about six months to be spent by the candidate with an organization specialising in portal frames and acting as a Co-operating Body for this project. Applications should be sent to the Head of Department of Construction, Oxford Polytechnic, Oxford OX3 0BP. Closing date for applications 31 August 1975.

PLYMOUTH POLYTECHNIC
S.R.C.
RESEARCH STUDENTSHIP
in either
X-RAY CRYSTALLOGRAPHY OR FISH PHYSIOLOGY

Applications are invited for a postgraduate research studentship in one of the following fields :

1. X-ray crystallographic study of antibiotic materials.
2. Blood circulatory system of fish.

Applicants should expect to obtain a degree with first or upper second class honours in either physics or chemistry for project 1 and in a biological subject for project 2.

Application forms and further information may be obtained from The Personnel Officer, Plymouth Polytechnic, Drake Circus, Plymouth PL4 8AA, to be returned by 26th July 1975.

ABERDEEN
ROBERT GORDON'S INSTITUTE OF TECHNOLOGY

RESEARCH STUDENTSHIPS

Applications invited from GRADUATES (or equivalent qualification), or from students expecting to graduate.

Studentships funded by Scottish Education Department and Science Research Council to pursue research for a Higher Degree.

Basic rate £875 per annum under review.

Vacancies in the Schools of Business Management, Biological Chemistry, Electronic and Electrical Engineering, Physics, Architecture, Mechanical Engineering, Mathematics, Librarianship and Pharmacy. Applicants with other interests will be considered.

Applications to Chief Administrative Officer, Robert Gordon's Institute of Technology, Schoolhill, Aberdeen, AB9 1FR.

NORTH LONDON
THE POLYTECHNIC
DEPARTMENT OF SOCIOLOGY
LECTURER (GRADE II) IN SOCIOLOGY

Applications are invited for a temporary full-time lectureship in Sociology with particular reference to Comparative Sociological analysis of Under Developed Policy, World Societies, and further teaching interests in Political Sociology and supervision of Under Graduate research projects.

The appointment would be at Lecturer (Grade II) level for one year, from 1st September 1975 to December 31st 1976. Salary scale : £3,670 to £4,476 (under review) plus £300 London Allowance and threshold payments.

Application forms and further particulars must be obtained from the Registrar and Secretary, The Polytechnic of North London, Prince of Wales Road, London, NW5 3LB (01-485 0101, Ext. 258).

Application forms should be returned within 14 days of the appearance of this advertisement.

SHEFFIELD
THE POLYTECHNIC
DEPARTMENT OF HOTEL AND INSTITUTIONAL MANAGEMENT

LECTURER II IN APPLIED PSYCHOLOGY

This vacancy arises in connection with the expansion and innovation of the Department, involves the application of Psychology to work and environmental design with particular reference to the catering industry. Scope for industry/university liaison exists. Facilities at degree and M.I.H.M. levels. Research encouraged.

Salary Scale: £3,670 to £4,476. Plus threshold payment.

Application forms and further details obtainable from the Personnel Officer, Sheffield Polytechnic, Dalfords House, Chillaton Square, Sheffield, S1 2BB, to whom completed forms should be returned within fourteen days.

NOTTINGHAM
TRENT POLYTECHNIC
DEPARTMENT OF LEGAL STUDIES

LECTURER Grade II/SENIOR LECTURER in Law
(£3,670 to £5,010 (bar) to £5,412 plus £300 London allowance, threshold payments)

Further details and forms of application from the Chief Administrative Officer, Trent Polytechnic, Burton Street, Nottingham, NG1 4BU.

KEELE
THE UNIVERSITY
RESEARCH STUDENTSHIP

Applications are invited for a research studentship under the supervision of Dr. Steven Stott in Water Authority on the relocation of sewage sludge on grassland. Research to be carried out in the Biology Department.

Applicants should hold or expect to obtain a good Honours degree or equivalent in Biology, Agriculture or Soil Science. The award is tenable for three years at a stipend under review of £1,400 per annum, or £1,100 per annum for applicants with suitable postgraduate experience.

Application forms and further particulars from The Registrar, The University of Keele, Staffordshire ST5 5BG, to whom they should be returned not later than 28 July, 1975.

MANCHESTER
THE UNIVERSITY OF MANCHESTER INSTITUTE OF SCIENCE AND TECHNOLOGY

DEPARTMENT OF CHEMICAL ENGINEERING

RESEARCH STUDENTSHIPS, at S.R.C. rates, are available to good honours graduates in the following areas:

Distillation and absorption—heat and mass transfer in absorption and distillation separation processes.

Condensation of Mixed Vapours—condensation of mixed vapours from inert gas. Unique alloy plant and instrumentation facilities are available in the Separation Processes Laboratory.

Please send a curriculum vitae with your request for further details and an application form to Professor G. T. Standart, Department of Chemical Engineering, U.M.I.S.T., P.O. Box 88, Manchester, M60 1QD.

SOUTHAMPTON
THE UNIVERSITY

Applications are invited for a three-year RESEARCH FELLOWSHIP in MEDICAL EDUCATION, tenable jointly in the Faculties of Education and Medicine. The person appointed will undertake evaluative studies in the implementation of the new Southampton Medical School. Candidates should have a higher degree in education and experience of curriculum evaluation would be an advantage.

Initial salary according to qualifications and experience, on scale £2,778 to £3,186 per annum (currently under review). Superannuation scheme.

Applications giving a full curriculum vitae, together with the names of two referees, should be sent to Mr. Alfred Small, The University, Southampton SO9 5NH, from whom further particulars may be obtained by 25 July. Univ. ref. THES.

READING
THE UNIVERSITY
PLANT SCIENCE LABORATORIES

DEPARTMENT OF BOTANY

SRC CASE STUDENTSHIPS IN PLANT PHYSIOLOGY AND REPRODUCTIVE BIOLOGY

Applications are invited from Honours GRADUATES in Botany or Biology or with a degree in Microbiology and Physiology of Thermotolerant Organisms in association with Glaxo Research Ltd., Philip Lyle Memorial Research Laboratory, Ulverscroft, Loughborough, Leics. Applications will be considered from candidates with an interest in the physiology of growth and development of Thermomonospora, and the physiology and biochemistry of its reproductive biology.

The studentships are available from 1 October, 1975 for a period of up to three years.

Application, with a curriculum vitae and the names of two referees, should be sent to: Professor V. H. Heywood, Department of Botany, The University, Whiteknights, Reading RG6 2AS. Closing date 22nd July, 1975.

ULSTER
NEW UNIVERSITY OF ULSTER
QUEEN'S UNIVERSITY OF BELFAST
AND TRINITY COLLEGE, DUBLIN

SSRC STUDENTSHIPS

Three SSRC studentships are available in 1975-76 for candidates accepted for the course leading to the degree of M.Sc. in Economics at any of the three Universities named above.

This new departure in the field of graduate studies in Economics offers suitably qualified candidates a unique opportunity for combined study. The course involves two compulsory and two optional subjects and is completed in two semesters, each of ten weeks' duration, by special arrangement between the three universities, a candidate registered for the course at any one of them may, if he chooses, spend either the first or the second semester taking the appropriate courses at one of the other two Universities thereon, an unusually wide range of courses in specialised subjects or economics, both pure and applied, is available.

Further details and application forms may be obtained from any of the following—

Professor J. A. Bristow, Trinity College, Dublin, 2.

Professor R. D. C. Black, Queen's University, Belfast BT7 1NN.

Professor N. J. Gibson, New University of Ulster, Coleraine, County Londonderry, BT52 1SA.

LONDON
THE UNIVERSITY
KING'S COLLEGE

RESEARCH STUDENTSHIP IN GEOMORPHOLOGY

Applications are invited from British Nationals who hold good honours degrees or the equivalent, or who expect to obtain such qualifications in 1975, for a studentship sponsored by a Western Canada Palmer and Triton for study in aspects of Geomorphology with special application to British Columbia.

The successful candidate will be expected to register for a higher degree in the present year of the studentship is good and stipend plus allowances.

Applications and inquiries should be addressed to Professor K. Mongomery, Department of Geography, King's College, Strand, London, WC2R 2LS, by 17th July, 1975.

LONDON
THE UNIVERSITY
KING'S COLLEGE

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Overseas

The British Council

King Abdul Aziz University,
Jeddah, Saudi Arabia

Course team for a Programme of Communication Skills in English

THE PROJECT : The British Council has been asked to establish a Language Service Centre at King Abdul Aziz University to develop English Language Communication Skills for 320 First Year students in the Faculties of Medicine and Engineering. The programme will run initially for one year and will be carried out in association with various university departments in Britain and with the Council's English Teaching Division in London. It will require a wide range of expertise in the teaching of English for scientific and technical purposes, and will offer opportunities for the preparation of teaching materials.

THE POSTS : Applications are invited for the following :

Post 6	Specialist in Physical Sciences Education.
Post 11	Specialist in Multi-Media Systems—make tape recordings and video tapes.
Posts 12-18	7 Course Tutors in Technical Study Skills.
Post 24-25	Chief Engineer and Engineer to maintain TV studio, video and language laboratory facilities.
Post 26	Visual Aids designer—to assist in preparation of teaching materials.

THE APPLICANTS : Candidates, men only, must be suitably qualified and experienced. Graduates, preferably with TEFL qualifications are required for posts 6-18. For certain Course Tutor posts experience in Mathematics or Science Education will be required.

SALARIES :

Posts 6 and 11	£5,335-£6,064 p.a.
Posts 12-18 and 24-26	£4,969-£5,524 p.a.

All salaries are tax free. Salaries may be increased for candidates with special qualifications and experience.

BENEFITS : Free furnished accommodation ; overseas and children's allowances ; passage-paid annual home leave ; outfit and baggage allowances ; travel costs. One year contracts possibly renewable.

Please write, briefly stating qualifications and length of appropriate experience : quoting reference 75 AU 69-89 for further details and an application form to The British Council (Appointments), 65 Davies Street, London W1Y 2AA.

Overseas continued

WESTERN AUSTRALIAN INSTITUTE OF TECHNOLOGY

Applications are invited for the academic positions listed below

The Institute is a major, rapidly expanding college of advanced education with a current enrolment in excess of 10,000 students. The main campus is on a 240 acre site 6 miles south of Perth.

A particularly wide spectrum of studies is offered. All courses are characterized by a community oriented approach to higher education and there is an emphasis on multi- and interdisciplinary approaches. Awards at diploma, degree and postgraduate level are made.

SCHOOL OF SOCIAL SCIENCES

LIBRARY STUDIES—SENIOR LECTURER :

(i) Teach multi-media librarianship including historical and physical bibliography.
(ii) TUTOR/SENIOR TUTOR/LECTURER : Opportunities are available in bibliographical resources, library organisations, computer applications to information networks and school and children's librarianship.

PSYCHOLOGY—SENIOR LECTURER :

(i) Develop the Occupational Psychology course within the Graduate Diploma of Psychology and teach in one of the following areas : human factors, ergonomics, organisations, or bargaining and conflict
(ii) TUTOR/SENIOR TUTOR/LECTURER : Teach in one or more of the following areas : developmental psychology, psychology of personality (particularly experimental approach), human performance, perception, learning, motivation.

SOCIAL SCIENCES—TUTOR/SENIOR TUTOR/LECTURER/SENIOR LECTURER: (5 positions) Teach in one of the following areas : anthropology, economics, history, geography, politics, sociology.

ASIAN STUDIES—TUTOR/SENIOR TUTOR/LECTURER/SENIOR LECTURER : (3 positions)

(i) Teach on East or Southeast Asia in one or more of the following disciplines : sociology, political sociology, modern history, anthropology (ii) Teach on East or Southeast Asian economics, with particular emphasis on problems of development (iii) Teach linguistics with Southeast or East Asian emphasis. Field experience essential together with background in one or more of the following : phonetics/phonology, developmental psychology-linguistics, applied linguistics, sociolinguistics (Indonesian/Japanese/English).

EDUCATIONAL SERVICES

EXTERNAL STUDIES : Plan external studies courses in general and organise and participate in off-campus teacher education programmes.

SCHOOL OF APPLIED SCIENCE

STATISTICS—SENIOR LECTURER : Develop statistics courses at postgraduate level and teach statistics subjects at undergraduate level.

PHYSICS—TUTOR/SENIOR TUTOR/LECTURER : Teach physics in general with particular emphasis in the field of physics education.

SCIENCE EDUCATION—SENIOR LECTURER : Teach science education with regard to teacher education and supervise graduate students in thesis preparation.

SCHOOL OF BUSINESS AND ADMINISTRATION

MANAGEMENT—TUTOR/SENIOR TUTOR/LECTURER/SENIOR LECTURER : (2 positions) Teach in one or more of the following areas : organisation theory, finance, educational administration, politics.

ECONOMICS—TUTOR/SENIOR TUTOR/LECTURER : Teach applied economics to business students.

COMPUTER SOFTWARE PROGRAMMING—TUTOR/SENIOR TUTOR/LECTURER : Teach in assembly and high level programming, including COBOL.

MANAGEMENT SCIENCE—TUTOR/SENIOR TUTOR/LECTURER : Participate in teaching of undergraduate and postgraduate subjects, covering statistical analysis and mathematical techniques relevant to business and administration.

Further vacancies in the schools of HEALTH SCIENCES, ENGINEERING AND SURVEYING and TEACHER EDUCATION were advertised in this newspaper on 4th July, 1975.

SALARY SCALES : (at the current rate of exchange)—Tutor £Stg. 4,796-£Stg. 5,896. Senior Tutor £Stg. 5,845-£Stg. 6,745. Lecturer £Stg. 6,745-£Stg. 9,053. Senior Lecturer £Stg. 9,233-£Stg. 10,731. Salaries are payable in Australian Dollars.

QUALIFICATIONS : Applicants are expected to have suitable academic qualifications. In addition experience in professional practice or teaching is essential. Appointment to senior lecturer requires a high level of qualification.

TENURE : Appointment may be either permanent or for a short-term period of up to three years. Generous short-term contracts will be negotiated to suit individual requirements.

CONDITIONS : Fares for family, assistance for accommodation and removal expenses are payable to appointees. Conditions of service include superannuation (similar to FSSU), six weeks annual leave plus public holidays, three months long service leave on completion of each seven years service, sick leave and assisted study leave.

APPLICATIONS : Applicants should state if their preference is for permanent or short-term appointment. Detailed applications, including a curriculum vitae and names of three referees should be submitted not later than 1st August, 1975, to The Migration Liaison Officer, Western Australia House, 115 Strand, London WC2R 0AJ. Further particulars may be obtained from the above address.

When applying please quote reference HE5.

BAC
AERONAUTICAL & ELECTRONICS ENGINEERS
You can earn over
£13,000
In the next two years
TAX-FREE

We are seeking an Electronics Instructor and an Aero-Engine Instructor for the King Feisal Air Academy at Riyadh in Saudi Arabia where we are responsible for the training of Saudi Arabian cadet pilots.

Applications are invited from graduates aged 25-50, who have a degree in electronics, mechanical or aeronautical engineering and who have had at least one year's teaching experience. Consideration may also be given to applicants with an HND/HNC in aeronautical engineering, provided they have at least three years' experience of aero-engine instruction.

The successful candidates will receive free accommodation and messing, medical care and other facilities. We also offer frequent and generous travel-paid home leave, and the contract is renewable after two years.

Please apply with brief details of appropriate experience, quoting Ref. No. 311/THES, or telephone Preston 634317.

Principal Personnel Officer (S.A.),
Saudi Arabian Support Dept.,
British Aircraft Corporation,
Warton Aerodrome,
Preston, PR4 1AX. Lancs.

BAC
BRITISH AIRCRAFT CORPORATION

WESTERN AUSTRALIA
Mount Lawley,
College of Advanced Education

SENIOR LECTURER—
Special Education

Applications are invited from suitably qualified persons for the above position.
In 1976 this College will initiate a Graduate Diploma in Special Education, in addition to the present undergraduate studies in Special Education. The Graduate Diploma will be provided for three-year trained teachers already in or interested in Special Education. The successful applicant will be directly responsible to the Principal for the research required and for the planning, administration and teaching of the courses conducted within the Special Education Centre.
The position requires an ability to maintain the present close liaison with community agencies, and to generate new developments.

Qualifications :
The normal expectations for appointments at this level are a higher degree and evidence of extensive and appropriate experience in the field.

Salary Range :
$A15,954-$A18,544
(approx. £9,280-£10,750)

Details of conditions of service and application forms may be obtained from :
The Migration Liaison Officer,
Western Australia House,
115 Strand, London WC2R 0AJ
Tel : 01-240 2881

Applications will close on July 25, 1975.

Overseas continued

LECTURERS

Institute of Meteorology King Abdulaziz University Saudi Arabia

The Faculty of Sciences, King Abdulaziz University, Jeddah, Saudi Arabia, has the following vacancies in its Institute of Meteorology, and invites applications from suitably-qualified males.

Lecturer/Assistant Professor: Ph.D. (Met)
with specialization in Synoptic Meteorology.

Lecturer/Assistant Professor: Ph.D. (Met)
with specialization in Physical Meteorology.

Lecturer/Assistant Professor: Ph.D. (Met)
with specialization in Dynamic Meteorology.

Lecturer/Assistant Professor: Ph.D. (Met)
with specialization in Climatology.

Lecturer/Assistant Professor: Ph.D. (Met)
with specialization in Hydro-Meteorology.

Lecturer/Assistant Professor: Ph.D. (Met)
with specialization in Agro-Meteorology.

Lecturer/Assistant Lecturer: M.Sc. (Met)
with good teaching in Meteorology.

Meteorologist M.Sc. (Met)
with good experience in Weather Analysis.

Meteorologist M.Sc./B.Sc. (Met)
experience in handling Meteorological Instruments.

Assistant Meteorologist B.Sc. (Met)
experience in Meteorological observation and plotting.

Assistant Meteorologist B.Sc. (Met)
experience in practical Agro-Meteorology.

Assistant Meteorologist B.Sc. (Met)
experience in practical Hydro-Meteorology.

Chief Observer (Demonstrator) (5)
B.Sc./Secondary School & Certificate in Weather Observations. At least 5 years' experience in observational and plotting duties.

We are in fact looking for well-qualified, experienced and energetic persons to work in our Science Faculty. Very attractive terms and conditions of service are offered under the revised pay scales. On receipt of applications we will communicate our detailed terms and conditions of service to those candidates whom we find suitable.

Please apply in confidence with detailed bio-data and photostat copies of certificates/degrees/testimonials. Applications should be addressed to The Dean, Faculty of Sciences, King Abdulaziz University, P.O. Box 1540, Jeddah, Saudi Arabia, clearly mentioning the post and department for which the application is made. All applications must be received by July 31st 1975.

Selected candidates would be required to join the Faculty at Jeddah by 1st September, 1975.

On finalization of selection, contract will be executed through the Saudi Arabian Cultural Attaché in London or New York as the case may be.

Saudi Arabia

Mechanical Engineering Lecturer
from £6,000

The major mining companies and agencies that are responsible for mining, processing and marketing Zambia's copper reserves operate a Central Training Services Organisation. One of the main aims of this Organisation is to ensure that Zambian nationals have the opportunity to be trained in all aspects of the copper mining industry, which involves to a very large extent the field of Mechanical Engineering.

A Lecturer is required to both lecture and conduct appropriate practical sessions in mechanical technician subjects, following a syllabus of the Mechanical Technician/Technologist course laid down by the Government's Department of Technical Education and Vocational Training. The course equates approximately to the London City and Guilds Technician level and copies of the syllabus are available.

Applicants must have a degree, HND or HNC or equivalent in mechanical or production engineering, followed by 5 years industrial or teaching experience.

Salary: From K6825 gross per annum (£6000 at an exchange rate of K1 =68p). Additional benefits include return passages for employee and family, baggage allowance, tax free settling-in allowance, low rental housing, tax free allowance for children's education, free life assurance, interest free loan towards car purchase, generous paid leave.

For more information on Zambia's mining industry, a copy of the Course Syllabus, and an application form, write to:
Anglo Charter International Services Limited, Appointments Division, Dept. ATE 1107 7 Rolls Buildings, London EC4A 1HX

Zambia's Copperbelt

an experience that counts for a lifetime

CUMBERLAND COLLEGE OF HEALTH SCIENCES

Formerly: **New South Wales College of Paramedical Studies**

The Cumberland College of Health Sciences has been established in the Sydney Metropolitan Area under state legislation as an autonomous institution. It offers courses in Occupational Therapy, Speech Therapy, Nursing, Orthoptics and Physiotherapy.

Applications are invited for the following position:

HEAD
SCHOOL OF PHYSIOTHERAPY

Salary:
$A19,573 Range $A20,202.

Qualifications:
Applicants must have appropriate tertiary qualifications and experience in Physiotherapy.

Duties:
Responsible to the Principal for the development and operation of educational programmes within the School and for leadership of the academic staff of the School.

General
Initial appointment will be to the New South Wales Public Service on the understanding that the successful applicant will become a servant of the College when it attains full corporate status.

Subject to certain conditions, the appointee will be eligible to contribute to an attractive superannuation scheme.

Leave conditions are comparable to those of tertiary institutions. A contribution may be made towards fares and removal expenses.

Applicants may, on request, receive a statement of the guiding principles and objectives of the College, together with a more detailed statement of the duties of this position. The successful applicant would be required to commence duty no later than February 1976.

Enquiries should be directed to the Secretary (tel. 2122399). Applications, containing full details of qualifications and experience and the names of at least three referees, close on 26 September 1975 with,

The Secretary,
Cumberland College of Health Sciences,
P.O. Box K348, HAYMARKET,
NEW SOUTH WALES, 2000, AUSTRALIA.

Colleges and Departments of Art

LONDON
WIMBLEDON SCHOOL OF ART
REGISTRAR

Applications are invited from those with administrative experience with experience in both general and academic administration, for the post of Registrar. The post becomes vacant on 1st September, 1975.

The holder of the post will be directly responsible to the Principal of the School of Art for a broad range of duties.

Salary within the scale AP 4/6—£5,099 to £5,693 inclusive of London Allowance and threshold payments. (Salary award at present in effect.)

Further details may be obtained from: The Principal, Wimbledon School of Art, Merton Hall Road, London SW19 3QA to whom applications (one copy only), should be sent within 3 weeks of the appearance of this advertisement.

Administration

LOUGHBOROUGH UNIVERSITY OF TECHNOLOGY

ESTABLISHMENT ASSISTANT

Applications are invited from graduates or other appropriately qualified persons for a new post in the University Establishment Office. Responsibilities envisaged include staff committee work, recruitment and selection, wages administration and some statistics.

Salary on Grade 1A scale rising to a maximum of £3,990 plus threshold payments (under review, new scale partially agreed). Postcard requests for further details and application forms to Assistant Registrar (Establishment) Ref: 74/43R.

Loughborough, Leicestershire

Holidays and Accommodation

SWANSEA
Family house, Swansea West. Sleep 6. Sept. 6-20. Vilfredi 37022, 24681.

Reminder

Advertisements should reach The Times Higher Education Supplement by the Friday prior to publication for classified advertisements and by 10.00 a.m. (latest) on Monday prior to publication for linage and semi display.

LERARENOPLEIDING ZUIDWEST-NEDERLAND

DELFT/THE HAGUE—HOLLAND

ZUIDWEST-NEDERLAND College of education invites prospective teachers for 12-16 year olds in a combination of two subjects. Both the subjects themselves as well as educational aspects are integrated as much as possible. The curriculum is materially geared to practical requirements as they are experienced in contemporary secondary schools. In the English department a post is available for a

LECTURER

who will be involved in the following activities:

1. The development and teaching of an integrated oral skills programme.
2. The development and teaching of courses in the field of (applied) linguistics, relevant to the training of teachers of 12 to 16 year olds.

Practical experience in both fields is required.

Preference will be given to candidates with experience in secondary education.

Salary will be according to qualifications and experience to max. Hfl. 43,500 per annum.

Applications including curriculum vitae and the names of two referees to: the director of the Lerarenopleiding Zuidwest-Nederland, J.C. Roos, Postbox 2057, Delft, Holland.

Closing date: two weeks after appearance in this paper.

AUSTRALIA
SWINBURNE TECHNICAL COLLEGE
PRINCIPAL

Applications are invited for the position of PRINCIPAL of Swinburne Technical College consequent on the retirement of the present incumbent, Mr. H. J. Major.

The Technical College is a division of Swinburne Colleges of Technology, Lonsdale and Cremorne, and offers full-time and part-time education in a wide range of technological subjects, including technician courses, and full-time professional courses. The present enrolment is approximately 8,000 of whom approximately 400 are full-time.

Applicants should possess a degree or diploma or alternative professional qualification, in addition, they should have proven leadership and administrative ability and a wide experience in technical education.

Relevant industrial experience, particularly in the field of industrial training, would be an advantage.

The Principal will be responsible to the Director for the planning and direction of the Technical College.

The salary for the position is currently $A15,000 per annum plus a 7.5 per cent as at 1/7/75 cost of living adjustment pending review.

Further details about the position may be obtained from the Director, Swinburne College of Technology Ltd., at the address shown below.

Applications, in duplicate, should be sent to: The Registrar, Swinburne College of Technology Ltd., John Street, Hawthorn, Victoria, 3122, Australia no later than 31 July, 1975.

LETTERS TO THE EDITOR

Teachers' Union

from Mr P. G. Peacock

Sir,—I hope those who share Dr Heskin's disaffection with the AUT will read Eric Zucker's constructive proposals for a confederation of teachers' associations before they rush to join ASTMS (*THES*, June 6 and 13). The state of AUT affairs at the New University of Ulster (if correctly reported by Dr Heskin) is surely not typical. I do not find my colleagues in the AUT, either senior or junior, guilty of more "duplicity, dishonesty, disloyalty, sheer personal greed and incompetence" than the rest of mankind. We have had fundamental disagreements on the AUT's salary policy; but we have also worked harmoniously on a wide variety of other matters of equal importance.

The problems afflicting the AUT are quite different from those described by Dr Heskin. One of them is to get more members to participate in the work of the association all the year round, and not simply at times of crisis. Another is to reconcile short term with long term interests. Another is to hold together the militants and those who have scruples about the use of industrial muscle. Another concerns what importance we attach to the rights of innocent and vulnerable third parties in industrial disputes. Such problems are not unknown in other unions including, I dare say, ASTMS. Dr Heskin is unlikely to escape them by running away.

Yours faithfully,
P. G. PEACOCK,
Librarian,
University of Stirling.

University changes

from Professor Max Hammerton

Sir,—I wish to make a few modest proposals for easing the present and probable future troubles of the universities.

The way in which British universities are organized is appropriate to a state of continuous expansion. The assumption that this state obtains is now false; and even if our present financial troubles evaporated, it could not be forever true. It is, therefore, desirable to make a number of alterations, partly to relieve our present burdens, and partly to prepare for an eventual steady state. The suggestions made here are not supposed to be agreeable, only sensible.

During the eighteenth century, when a virtually "steady state" condition obtained, circulation of academics, and hence avoidance of need to wait for "dead men's shoes" was at least partially achieved by packing off fellows to livings of which colleges held the advowson. No man in his right mind would now want to enter the church, so we need a substitute. Also, we need to discourage the too ready assumption that any academic post carries an automatic guarantee for life, and the excessive intake of postgraduates who are competent, but by no means totally devoted to scholarship. Therefore:

Suggestion (1): A small number of posts in the various branches of the Civil Service, in the research councils, and in the nationalized industries should be bestowed by the Government to be in the gift of the universities, for persons who have already held academic posts for three to five years.

Suggestion (2): The contractual system for lecturers should be similar to that operated by the Medical Research Council for its research scientists; and renewal of contracts at the end of each five year period should not be regarded as automatic.

Suggestion (3): There should be a limit to the number of post graduate students any member of staff is allowed to supervise—perhaps not more than two from each year.

A serious symptom of our present discontent is the very low entrance qualifications being asked by formerly serious departments (cases of 2 E's are known to me). This stems from the vicious system whereby grants are a function of student numbers. I find it hard to think of an alternative measure; but as a temporary step to relieve the immediate pressures towards debasement:—

Suggestion (4): Departmental grants should depend upon the number of students who could be catered for, not for the number actually present.

Suggestion (5): Minimum entrance standards should be laid down (perhaps three C's).

It might become necessary to wind up some departments which were unable to maintain reasonable student numbers under suggestion five; but we should not shrink from this.

It is preposterous to devote scarce public resources to teaching students what bright and literate persons would, and should, take pains to teach themselves. Therefore:

Suggestion (6): The teaching of English *at undergraduate level* should cease, and all departments doing so should be wound up as soon as convenient.

As has shrewdly been observed by Bertrand Russell, in order to be of value, any philosophy must rest upon a broad and solid foundation of learning that is not specifically philosophical. Hence, philosophy should be a graduate study only. Therefore:

Suggestion (7): The teaching of philosophy *at undergraduate level* should cease, and all departments doing so should be wound up as soon as is convenient.

It has long been noted that the worth of sociology has been negligible, the discipline largely consisting of the substitution of labels for thought. On the other hand, it cannot be ruled out a priori that there never will be any useful or illuminating outcome from such studies, and their total elimination is uncalled for. Therefore:

Suggestion (8): All but two of the country's departments of sociology should be wound up. The choice of the two survivors is a matter for discussion; but it is important that they should be as different in approach as possible, so as to generate fruitful argument.

Yours faithfully,
MAX HAMMERTON,
Professor of Psychology,
University of Newcastle upon Tyne.

Public spending

from Mr R. C. Griffiths

Sir,—David Shapiro's "Don's Diary" makes a shrewd point about the effectiveness of the University Grants Committee's control of public expenditure as compared with that of central government and local authorities. I have to acknowledge also his less than flattering reference to the UGC as ". . . for so long the dustbin for failed Treasury men". I would however suggest, particularly to a reader in government, that some scholarly thought might be applied to the reasons why the control system centred upon the UGC, which has no formal powers of any sort and no requirement for prior approvals, can apparently achieve, through post-hoc management analyses, informal guidance letters and sound techniques for estimating the expenditure required to carry out agreed objectives, a more effective control over its large sector of public expenditure than appears to be possible elsewhere. The outcome might prove to be of real interest.

Yours faithfully,
R. C. GRIFFITHS,
Director of the Inter-University Council for Higher Education Overseas.

DONCASTER LOCAL EDUCATION AUTHORITY

DONCASTER INSTITUTE OF HIGHER EDUCATION

APPOINTMENT OF

PRINCIPAL

Applications are invited from persons with appropriate qualifications and experience for the post of Principal of the new Doncaster Institute of Higher Education. The Institute will be formed from an amalgamation, in September, 1976, of Doncaster College of Art, Doncaster College of Education, Doncaster College of Technology, (including Mexborough College of Further Education) and Scawsby College of Education. The salary is likely to be initially at a point in the range £11,136 to £11,646.

The Authority is seeking to appoint a Principal who will lead the development of the new Institute, especially in matters of policy and standards, and will have the skills needed to interpret and relate the work of the Institute to education, industry, commerce and the community. The successful candidate will be expected to take up the post as soon as possible in advance of the formation of the Institute so that he or she may play a full part in its planning.

Application forms and further particulars may be obtained from the Director of Education, Education Department, Princegate, Doncaster, to whom completed forms should be returned by not later than 31st July, 1975.

CAREERS OFFICER

(FURTHER AND HIGHER EDUCATION)

To be based Reigate and to work in a range of colleges with students up to HND level and with many part-time students including those at adult education centres and with the Open University. The full range of support services will be available, including the assistance of a Careers Information and Research Officer based at headquarters.

Candidates should have a degree or equivalent qualification and be qualified for and experienced in the work of the Careers Service.

Car mileage and subsistence expenses payable, together with generous relocation expenses in approved cases. Temporary accommodation may be available.

Salary £3,555-£3,804 plus £180 Surrey Allowance.

Further details and application form from County Education Officer, County Hall, Kingston upon Thames, KT1 2DJ. Tel.: 01-546 1050, Ext. 3464.

SURREY COUNTY COUNCIL

CANTERBURY

UNIVERSITY OF KENT

Applications are invited from graduates for two posts of ADMINISTRATIVE ASSISTANT in the Academic Division of the Registry. One post will be primarily concerned with the work of the Faculty of Social Science (Ref. A26/75); the other with External Studies (Ref. A27/75). The appointments will be made on Administrative Grade 1A on the salary scale (at present under review): £1,809 to £3,990 per annum plus threshold payments of £420·68 per annum.

Note: From 1st October, 1975, the equivalent scale now undergoing further review will be not less than £3,370 to £6,022 per annum, plus threshold payment of £353·52 per annum.

Further particulars and application forms may be obtained from the Establishment Officer, The Registry, The University, Canterbury, Kent (quoting appropriate reference). The closing date for the receipt of completed application forms is: 1st August, 1975.

General Vacancies

LONDON, W.1

Private college requires GRADUATE TEACHERS to give part-time courses in ENGLISH LITERATURE, FRENCH, SPANISH/MODERN EUROPEAN HISTORY.

Please write Box 0643 THES, The Times WC1X 8EZ.

SHEFFIELD
UNIVERSITY OF SHEFFIELD UNION OF STUDENTS
Western Bank, S10 2TG
RESEARCH OFFICER

Applications are invited for the above post to commence 1st September for a period of two years. The post would be suitable for recent graduate with a knowledge of survey techniques and/or information work and an ability to present information with clarity. The post would also include research into welfare matters. The salary offered is £3,000 per annum together with threshold payment payable at present at a rate of £353 per annum.

Applications, together with curriculum vitae to be addressed to the Secretary when forms of reference will be forwarded.

CET

COUNCIL FOR EDUCATIONAL TECHNOLOGY FOR THE UNITED KINGDOM

wishes to improve the availability and effectiveness of training provision for new and serving teachers in educational technology in all sectors of education and training.

The Council is therefore developing an integrated programme of support for the agencies directly concerned with the provision of training.

A TRAINING SUPPORT CO-ORDINATOR

is required to help to plan and organise the programme

Duties will include: arranging and conducting consultative meetings throughout the UK; working out detailed support schemes; negotiating arrangements with regional and national bodies.

The appointment is to be for two years. Salary: £5,500 (negotiable). Six weeks' annual leave. The post will be London based. Secondment arrangements possible.

A good knowledge of the education and training systems of the UK is required and preference will be given to a candidate who has had experience in the teacher/trainer education field. Frequent long-distance travel and overnight absences from home will be involved.

Full details of the post are available from:

The Office Manager, Council for Educational Technology, 160 Great Portland Street, London, W1N 5TB.

No applications should be made without first obtaining these details. (Closing date for applications: 28th August, 1975.)

Colleges of Further Education

Ipswich Civic College

HEAD
OF SCHOOL OF SOCIAL WORK, NURSING AND EDUCATION

GRADE V

Interviews for the above vacancy will be held in early September and the successful candidate will be required to take up the appointment as soon as possible thereafter.

SALARY £6,270-£7,038 p.a. subject to review in the light of the 1975 Burnham report, when published.

Further details and application forms are obtainable from the Principal, Ipswich Civic College, Rope Walk, Ipswich, IP4 1LT. Completed application forms should be returned to the Principal within 21 days of this advertisement.

Librarians

SCOTTISH COLLEGE OF TEXTILES

Senior Librarian

Applications are invited from professionally qualified librarians with appropriate experience for the post of Senior Librarian in charge of the library in the Scottish College of Textiles, which is a Scottish Central Institution.

The salary scale is £4,587-£5,252 per annum (eight steps). Preference will be given to those candidates who possess a university degree.

For further details and an application form write to:
The Principal,
Scottish College of Textiles,
Galashiels, TD1 3HF,

to whom completed forms should be returned by 31st July, 1975.